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ORIGINAL ARTICLES.

MASSAGE IN THE TREATMENT OF FRACTURES.¹

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UNTIL very recently less advance had been made in the treatment of fractures than in any other department of surgical practice. This is the more remarkable on account of the frequency of this lesion, and it is accounted for by some² on the ground of the fear of suit for malpractice if any but the stereotyped methods are employed. As many writers state it can scarcely be denied that the usual method of treatment of fractures is far from giving entire satisfaction, but is regarded as a necessary evil.

Comparatively recently, the "ambulatory treatment" of fractures has received much attention. As to the meaning of the term ambulatory much confusion, it seems to me, exists. What is new in this method is not that the patient is allowed to walk about with crutches after the fractured leg is put up in plaster, but that the plaster is so applied as to act as a combination of an extension splint and an artificial leg, so that the patient walks on the sole of the plaster splint without the support of a crutch or cane. In common with many others I have tried this plan of treatment somewhat extensively in fractures of the leg, and with considerable satisfaction. Its advantages are that it maintains the general condition of the body, and is especially useful in the aged and alcoholic by preventing long confinement in bed. It prevents atrophy of the lower extremities and stiffness of the remoter joints (knee and hip), and it allows a certain class of patients to resume business at an early date. It clears the hospital wards but does not allow a day laborer to work much earlier than the former methods. It does not materially shorten the period of healing. It fails, therefore, to fulfil two requirements at which the improvement in the treatment of fracture should aim, namely, (1) a shortening of the time required for bony union, and (2) an improvement in the functional result when union is obtained.

The crippling of an otherwise healthy person for six weeks is bad enough in itself, but unfortunately this is not all or even the worst part of the usual plan of treatment, for when the splint is removed there is atrophy of the muscles, stiffness of the joints, and disturbance of the circulation; and a period, often longer than six weeks, may be required to obtain a perfect functional result for which a lifetime does not always suffice. It is claimed for massage that it fulfills both of the above requirements, and hence furnishes an improved method for the treatment of fractures. But, as Lucas Championnière, the apostle of this method, says, massage introduces into the treatment of fractures an overturning of our previous notions which it is necessary to justify. It is mobilization, represented by massage, versus immobilization, which since time immemorial has been the primary condition in the treatment of fractures.

Immobilization has been supposed to meet the requirements of the proper treatment of fractures on the ground that it (1) suppresses pain, (2) best permits the restoration of the original form of the member, (3) facilitates the repair of the fractured bone, (4) is the best means for the recovery of the normal function, (5) prevents or cures inflammation.

Championnière³ attacks these premises seriatim and shows:

1. That only the primary pain, due to the movements of the fractured ends on one another, is suppressed by immobilization, and this not entirely for the latter is not absolute until callus binds the ends together. It, moreover, allows and favors a secondary pain in the neighboring muscles, joints, etc., which is largely due to the swelling from ecchymosis and edema.

2. That the statement that the restoration of the member to its original form is accomplished by immobilization is only relatively true, and especially so in the most important fractures, *i.e.*, at the ends of bones in which consolidation often takes place in a form different from the primitive one. Reduction only corrects the displacement imperfectly in many cases, and the latter may be reproduced by serous or bloody extravasations or by faulty apparatus.

3. That instead of favoring the repair of bone immobilization causes a scantiness of callus. We have all had experience of cases of delayed union in

¹ Read before the Surgical Section of the New York Academy of Medicine, March 8, 1896.

² A. C. Wiener, "New Views of the Treatment of Fractures of the Lower Extremities," *Chic. Med. Recorder*, 1896, p. 96.

³ Championnière; "Traitement des fractures par le massage et la mobilisation."

which motion is one of the first things we prescribe to induce a healthy reparative action, and the formation of sufficient callus. It is said that certain fractures in dogs will not heal with apparatus but only without it, provided that there be not too active motion.

4. That immobilization is the worst instead of the best condition to assure the recovery of normal function. In healthy muscles, ligaments, and joints, forty-eight hours of repose causes a tendency to pain on using, and so much more so if there is serous and bloody extravasation in these parts, following an injury. Immobilization has a bad effect not only on the injured part and its neighborhood, but on remoter parts, and even on the opposite limb in cases of fracture of the leg.

Atrophy of the muscles, stiffness of the joints, want of suppleness of the ligaments and tendons, and disturbance of the circulation, are effects of immobilization with which we are all familiar, and which require time and perseverance to overcome. Although long immobilization does not cause true ankylosis it does cause so much stiffness in a joint, especially in one near a fracture, due to infiltration of the ligaments and tendons, swelling of the synovial membrane and atrophy of the muscles, that the effect is nearly the same. And this effect is the more lasting the older the individual, so that after a certain age one never obtains a complete functional result after treatment of a fracture by immobilization.

5. That inflammation depends upon bacterial infection, and not on movement, the danger of which lies in the repetition of the tearing and contusing of the tissues. Immobility only lessens the pain of inflammation.

Championnière adds that the absolutely exact return to the original form of the skeleton after a fracture is not as important as the complete return of the function of the joints, muscles, etc., a position that I think is sound though many may be inclined to question it on the false assumption that perfect position means perfect function after a fracture.

As to massage, the above-named author makes the following statements among others. (1) A certain amount of motion is favorable to the repair of bone. (2) Massage is complex therapeutically; it gives a favorable degree of movement and by many unknown ways causes the repair of bone to be rapid and regular. (3) Certain degrees of deformity contraindicate massage, at least its immediate application.

Movement is life to the soft parts and is necessary to the formation of callus. It assures more rapid and complete repair. Fractures of the clavicle and ribs heal almost invariably and very rapidly, though subjected to constant or frequent motion, and since the

stone age fractures have healed in man, the apes, and lower animals, without treatment. Non-union in long bones, not immobilized, when it occurs, is not due to mobility so much as to the want of contact. If a fracture is absolutely fixed the callus may be so scanty as often to cause delayed union. But on the other hand there is a limit to the amount of useful movement, and there are conditions when all movement is contraindicated. The movement in or near a fractured part should be made by the surgeon and not in connection with the function of the part. When made by the surgeon it is useful from the very beginning of the treatment. The only obstacle is pain, but this is overcome by the massage, the principal means employed to provoke the slight movement.

Massage is the best means of causing slight movement without pain at the site of fracture and is, according to Championnière, the fundamental principle of the treatment of fractures. Massage is a broad term, and the particular form applicable to the treatment of fractures should be carefully studied as the discrepancies in results obtained by this method are attributable to the variations in the means employed. Massage should not be of the violent kind such as is often applied in old fractures, or after fractures have united. A surgeon can apply it better than a masseur on account of the preformed habit of the latter of using too much force, and the better knowledge of the complex injury, and of the anatomy of the part, possessed by the former. The index of the massage should be the absence of pain, for pain should not be provoked but relieved by the treatment.

The Effects of Massage.—The first effect as well as the first aim of massage is the disappearance of pain. This effect should be reached without causing pain in the act of massage, and is obtained by gentle, repeated, centripetal movements of the whole hand. Although hard to account for, the relief is probably due to the disappearance of exudation in the distended tissues and to a direct effect on the nerves, which also contributes to the hastening of repair. A second important effect of massage is the diminution of the swelling of the limb caused by the resorption of the ecchymosis and edema which ordinarily increase for the first five days, while if massage is applied daily from the first the swelling has about disappeared by the time it usually begins to subside, although at first between each period of massage the swelling may increase somewhat. Also, the secondary edema which often comes on after five or six weeks, especially in aged patients when the limb is first used, is conspicuous by its absence. This is due to the improved circulation following the early removal of the exudation and the continued massage.

Furthermore, the muscles are kept from atrophy, the joints and tendons from stiffness, the skin is soft and supple, and the return of the part to vital activity is rapid and satisfactory. The patient desires to resume the function of the adjoining articulations and even of the fractured member as soon as the pain has disappeared, and has to be restrained rather than encouraged in his desire. The great rapidity of the cure of contused muscles when massaged is well known. In fine, massage favors the perfection as well as the rapidity of repair of all parts.

Practice of Massage.—(1) It may be commenced at once and continued every day, the limb being placed in a removable apparatus or not according to the tendency of the fracture to displacement. (2) After being first massaged the limb may be placed in a plaster splint and massage recommended in a few days, when the splint is removed, to be reapplied and removed daily. This course may be adopted when there is moderate tendency to displacement. (3) When there is great mobility of the fragments, immobilization may be employed, to be followed by massage after the commencement of consolidation. In general, and when it is possible to do so, the earlier the massage is used, and the more systematically it is kept up, the better are the results.

The maneuvers of massage are simple, and consist of a series of movements in the direction of the muscular fibers and blood current, made by the thumb, fingers, or whole hand, making more or less pressure, according as the effect is to be superficial or deep. The thumb, or thumbs, or two fingers, are employed if a deep effect and strong pressure are desired, otherwise the whole hand. First, it is necessary to fix the member to be massaged, and this is done by supporting it on a hard pillow or, better, a sand cushion molded to fit the part; or, later on, by resting it on the knee; or, in the upper extremity, by the weight of the limb. Traction is made by the hand not massaging or by an assistant, in which case both hands may be used to massage, if desired. The best lubricant is olive oil, the next best soap-suds, and perfect cleanliness should be observed. The part should be massaged for from fifteen to thirty minutes once a day, oftener may do more harm than good.

The cardinal rule that the massage should cause no pain is always to be borne in mind. Therefore, at first, very little pressure should be made, and the whole hand should be used, commencing well below and ending far above the fracture, and *omitting all pressure over the site of the fracture at all times.* After five or ten minutes, gradually increasing the pressure, a certain degree of anesthesia is produced, and deeper pressure may be made on the muscle

groups by using the thumb or two fingers. The energy of the pressure should vary with the age of the fracture and its variety. Other movements, besides the slight ones due to massage, are of themselves painful, hence they should be made, when desired, at the end of massage, when the part is made more or less anesthetic. They may be of two kinds, active and passive. The neighboring joints should be moved by the surgeon and, early in the course of the treatment, the pain having disappeared, the patient may be allowed to make active movements, but these should be limited, as there is more danger of too much than too little, owing to the absence of pain and the general normal feeling of the part. The remoter joints also should not be forgotten in the movements.

In the matter of retentive apparatus between the periods of massage, Championnière is very radical, discarding everything except a flannel bandage, save where there is a tendency to displacement, and even in these cases, as soon as there is a certain degree of consolidation. Of course, in fractures with any *marked* tendency to displacement, retentive apparatus must be employed until this tendency disappears with beginning consolidation.

Contraindications.—Certain conditions, besides extreme mobility of the fragments, contraindicate massage for a time, namely, large or numerous blebs, until they are dried up; also, a sharp fragment threatening to perforate the skin, or open vessels. On the other hand, compound fractures, especially those compounded from within by a sharp fragment, may be massaged at a comparatively early period when the usually small opening has closed.

The practical results of the treatment of fractures by massage may be summed up as consisting of (1) the disappearance of pain (as in the similar treatment of sprains); (2) the disappearance of tension and swelling in the tissues from the absorption of ecchymosis and serous effusion; (3) the sedative nervous effect; (4) the extreme rapidity of the formation and consolidation of callus; (5) the early establishment of function; (6) the absence of atrophy of muscles, stiffness of joints and tendons, secondary swelling and edema, and poor circulation. In short, a very rapid recovery, marked by comparative absence of pain, and an excellent functional result.

It is in fractures at the ends of bones that the results of this treatment are the most strikingly good, and those of immobilization the worst. In such fractures the deformity is less and the vascularity greater, so that, though extravasations are common and extensive, their resorption by the use of massage is very rapid and complete. In Championnière's hospital service the average duration of the treatment of

fractures of the fibula is three weeks, and patients with fracture of the radius commence to use the hand in eight days. In other fractures the time of treatment is proportionally shortened, and not only this, but the functional result is most excellent. The foregoing is a brief summary of Championnière's views and practice, which are fully detailed in his book.

Admitting that, in advocating a new plan of treatment, the pendulum only too often swings too far, and that the best and safest plan is to be found somewhere midway, we may ask the question: What have others to say of the use of massage in the treatment of fractures, and what has experience taught us? French and German medical literature contains numerous references to this plan of treatment, indicating its extensive trial abroad. The practice of most German surgeons is not so extreme as that of Championnière.

As both P. Klemm¹ and Bum² say, the fractured bone demands rest, but muscle and joints bear it badly, and demand movement. Accordingly, the two last named surgeons limit its application to fractures in or near joints in which, as Klemm says, all agree that long-continued immobilization gives very questionable results. According to Klemm, the extravasation of blood in and about the joint is the essential factor in the loss of function of the joint, which is the serious part of these fractures. Some of this blood is absorbed, but most of it is changed to a connective-tissue thickening of the synovial membrane, causing contracture and adhesions. The extra-articular extravasation also affects the function by making the ligaments and tendons stiff. If this process is once under way the function of the joint is doomed, and it may always be crippled by it. Even the monarticular form of arthritis deformans has been shown by Volkmann to occur after such injuries. The treatment of such fractures must eliminate the extravasated blood, and this indication is fulfilled by massage, which meets another requirement by preventing muscular atrophy.

Movement of the joints is added to prevent stiffness and contracture. It is an essential feature of this method, according to Landerer,³ that the soft parts receive as much attention as the formation of callus, for atrophy of muscles is marked after twelve days of disuse. Furthermore, Landerer and Bum, in accord with Championnière, point out that early massage, by improving the circulation, favors and hastens callus formation.

¹ P. Klemm: "Zur Behandlung der Gelenkbrüche" (Volkmann's Sammlung, neue Folge, No. 78).

² A. Bum: "Ueber mobilisierende Behandlung von Knochenbrüche," Wiener Klinik, 1895, xxi, 1-20.

³ A. Landerer: "Die Behandlung der Knochenbrüche" (Volkmann's Sammlung, neue Folge, No. 19).

The carrying out of the treatment by massage is subject to considerable individual variation among surgeons who have reported their experiences.

As callus formation commences almost immediately, and does not delay until the fourth or fifth day, as was formerly supposed, crepitus until then being due to bony spicules, which are absorbed after about the fifth day, Landerer insists that fractures should be put up at once in the best possible position. Like Klemm and Bum, he does not like massage continuously from the first for fear of the displacement of the fragments and the misformation of callus, especially as no time is thereby gained. He makes one exception to this in impacted fractures which it is impossible to reduce, and he also states rather ambiguously, that joint fractures cannot be treated too soon by massage, passive motion and change of position of the splint. Accordingly, the above-named surgeons treat fractures near joints as follows: After careful reposition of the fragments, if necessary, and with or without being first massaged, the limb is put up in a plaster or other form of splint. After from four to twelve days, varying according to the nature and position of the fracture and the practice of the individual surgeon, the splint is removed, the limb massaged and again applied in the splint, and the massage repeated every day thereafter with passive motion in the neighboring joints. The results of this practice appear to be excellent. For instance, in malleolar fractures, the patients walk with two canes after fourteen days and in three weeks without any support (except, perhaps, in going up stairs). In twenty-eight cases of fracture of both malleoli in Klemm's practice, the average length of treatment was 24.3 days, and in thirteen cases of fracture of one malleolus 18.6 days. According to Lumnitzer's⁴ table, in fractures treated by massage and movement bony union was obtained in one-third and a functional result in one-half or two-thirds shorter time than when treated by immobilization. Collé's fractures are cured in even shorter time than malleolar, free use of the joint being obtained in fourteen days.

A further argument for the treatment by massage and passive motion of fractures near joints is found in the fact that this treatment is so generally and successfully applied to sprains. We may add that, according to Landerer, ninety-five per cent. of so-called sprains of the ankle are really fractures, and ninety-nine per cent. of sprains of the wrist are fractures of the lower end of the radius.

As above indicated, German surgeons do not consider fractures of the shaft of bones applicable to

⁴ J. Lumnitzer: "Beiträge z. Heilverfahren bei Knochenbrüche," Ung. Archiv. f. Med. Bd. II. Hft. 2.

treatment by massage, on account of the tendency to displacement, until after consolidation by callus or except where there is no tendency to displacement, or where a little over-riding would cause no loss of function, as in fracture of the fibula. Otherwise in fractures of the shaft Burn would immobilize for ten to twenty days, until callus formation is assured. According to Landerer also all oblique fractures must be treated by extension where both bones or the only bone of a limb is broken. Klemm would recommend for fractures of the shaft of the bones of the leg Krause's ambulant treatment, in which, for about eight days, massage is employed daily with elastic compression between times. In eight days the swelling has subsided and the ambulant splint applied. This combines some of the advantages of both methods, but by no means all, and it has seemed to me that these advantages might be well combined in fractures near joints. But in the latter class of fractures Krause's method is faulty, for it exposes the joint to the dangers of stiffness from immobilization after the eighth day. This was strongly impressed upon me by two of my cases in which massage was being applied, and which I put up in plaster after a week or so on account of the marked deformity of the Potts' fracture, being uncertain of the results of the massage method in such cases. Before the plaster was applied the ankle was freely movable and the site of the fracture painless. After two weeks in plaster the ankle was stiff and painful on motion, and the position, though good, was no better, if even as good as in a similar case massaged throughout.

A combination of the advantages of the ambulatory and massage treatment can, I think, be obtained, in a measure at least, by the method suggested by Dollinger¹ or modified to the extent that the walking plaster splint is cut down in front instead of on both sides, as he suggests. In either case the splint is held securely in place by three or four broad straps. Of this modified method I made a partial trial in one case, with the result that it seems to me to be feasible. There is one fracture, preëminently a fracture near a joint, in which the poor functional results often obtained are due largely to two causes—the changes in the blood in and about the joint and the atrophy of muscles, both of which are remedial by massage. I refer to fractures of the patella. Burn's remark that every method of treatment of these fractures which results in bony union leads to important loss of function, deserves careful consideration.

The facts justify Klemm's statement that bony union seems to be the primary object of many, the functional result secondary. All will admit it to be true, as Landerer says, that the great need in the treatment of fractures of the patella is a method that every one can apply. Such a method I think we have in one of the various modifications of the application of massage. This does not seek to obtain bony union, but, when the distance between the fragments is not too great, anatomical restitution of the parts is not necessary.

I do not wish to be understood as opposing operation in cases of fracture of the patella. I have frequently operated myself and expect to continue to do so in suitable cases. The treatment by operation should be confined, however, to surgeons who can operate with every facility. It remains true, however, that a large number of such fractures must be treated by others, and the need of a method giving a good functional result is met by the massage method with the additional advantage that the duration of treatment is much shortened. As to the ambulatory treatment, Landerer and Klemm agree that it is just the thing in cases of fracture of the neck of the femur in old people, and that this is about the only fracture near a joint where it is called for. Klemm adds that such injuries are satisfactorily treated in this way by the use of a Thomas' splint in A. von Bergmann's wards in Riga. I would certainly add all fractures of the leg, especially of the shaft of the bones, in old people and alcoholics to the list of those to be treated by the ambulatory method, or, preferably, this method combined with massage.

Treatment by massage is indicated in all fractures in or near any joint as well as those especially referred to. Thus Selenkow¹ reports a case of fracture and dislocation at the elbow in which massage was employed with great success, active motion being begun in fourteen days and the splints removed in seventeen days.

With many of the above facts in mind, my own experience, by no means extensive, commenced rather cautiously somewhat over a year ago. I have for the most part only treated fractures near joints, in which the method seemed to me to meet an urgent need. The fractures so treated have been mostly Potts' fractures, and the treatment has been carried out mainly by the house staff or nurses of the First Surgical Division of Bellevue Hospital. Up to the present time I have treated thirteen Potts' fractures, and three are now under treatment. Of these cases four were treated a year ago, the rest during the present winter. I have also treated, or

¹J. Dollinger: "Ein einfacher abnehmbarer Gipsverband zur ambulanten Behandlung der Unterschenkelfrakturen." *Centralbl. für Chirurgie*, 1893. No. 46, p. 995.

¹T. A. Selenkow: "Zur Behandlung der Fractura Simplex."—*St. Petersburg Med. Wochenschrift*, 1889, No. 6.

have under treatment, fractures of the radius (Colles'), elbow, patella, shoulder, and leg. I have, perhaps, been over cautious at first, and have not allowed the patients to get up quite as early as the French and German surgeons, whose results I have reported. Furthermore, I have not hesitated, if the position seemed to be faulty, to suspend massage and put the leg up in plaster to correct displacement. In such cases the difference between the two methods has been made very striking. The ankle joint, comparatively supple when put up in plaster, has been decidedly stiff when the plaster was removed ten or fourteen days later. As stated above, this led me to the idea of combining the advantages of the ambulatory and massage methods advocated by Dollinger. I have only had enough experience with this plan to determine to test it more thoroughly and to venture the opinion that it promises an ideal method of treating periarticular fractures of the leg. The deformity of a Potts' fracture may be corrected by applying between the periods of massage half of a plaster cast applied in the correct position of the limb. Otherwise I have used for the most part a Volkmann's splint to retain the leg between times for the first fourteen days.

As to the results of the treatment by massage, my experience has been very encouraging, so much so that I have made it the routine treatment in my wards in Bellevue Hospital in fractures near a joint. Pain and swelling subside early, and the patients often express a desire to get up before I allow it. Bony union is obtained by the end of the third week, and when I let the patients get up (from the nineteenth to the twenty-fifth day) they are able to walk without a cane within two or three days with little or no stiffness or pain.

As far as my limited experience justifies me I can conscientiously recommend the method to others, for it is easy of application, though demanding somewhat more time on the part of the surgeon. The time from the receipt of fracture to the commencement of massage has varied from 1 to 8 days, and has averaged 2 days. Massage was applied, as a rule, once daily for fifteen to twenty minutes, followed by passive motion which increases with the time after the fracture. The time from the receipt of fracture to the first time allowed up has varied from 18 to 27 days, and averaged 22.3 days; and to the time when the patient could walk without any support has varied from 21 to 32 days, and averaged 27.5 days. The average stay in hospital has been 31.3 days (*i.e.*, from 18 to 41 days). One patient, a woman who weighed 200 pounds, with a bimalleolar fracture, walked without support, and without pain and stiffness, in 21 days. That the result in each

case has not been proportionately good is not surprising considering that massage has been applied by a number of different persons not equally skillful. In fact, the method has not yet been used enough to educate any one of those giving the massage to a high degree of skill in its use. Hence, the method has been tried under disadvantages, and it is not strange that in three cases we have applied plaster splints after varying periods of massage. The results in these three cases, showing almost the same degree of joint stiffness as in cases treated by immobilization, has impressed upon me the importance of applying the massage last, the plaster first. Partly for this reason, partly because the recent cases of Potts' fracture have had extreme mobility and deformity, and partly to try the plan of massage treatment practised by the German surgeons referred to, I have adopted of late the latter method and put the fractures up in plaster at once for a variable time, and then applied massage and passive motion, keeping the limb between times in a part of the plaster splint. I have done this the more readily because I believe that the treatment of fractures near joints by massage is especially adapted to private practice, where we are held more personally responsible for the functional result, and where the surgeon as well as the patient might hesitate to be without the security of a plaster splint at first to maintain the parts in the best position.

The following conclusions may, I think, be drawn from the consideration of the above:

1. The treatment of fractures, especially those near joints, by immobilization, whether ambulatory or not, leaves something to be desired in (a) the time required and (b) the functional result obtained.
2. The treatment of such fractures by massage and passive motion shortens the time of bony union by one-third or one-half, and vastly improves the immediate functional result.
3. This treatment is especially applicable and important in fractures near joints.
4. Its application is easy. It relieves pain and swelling, hastens callus formation and solidification, prevents atrophy of the muscles and stiffness of the joints and tendons.
5. Splints should be applied between the daily fifteen or twenty-minute applications of massage for the first ten or twenty days, according to the nature of the fracture and the tendency to displacement, or until consolidation occurs.
6. This treatment, combined with the ambulatory method, promises an ideal method.
7. Oblique fractures of both or the only bone in a limb, or fractures near the middle of the limb with a tendency to displacement, should be immobilized until consolidation has commenced.

8. The ambulatory treatment is indicated in the latter classes of fractures, in fractures of the lower extremity in the alcoholic or very aged, and in fractures of the neck of the femur in the aged.

9. The plan of immobilizing the limb for a short time in the best possible position, and then applying massage and passive motion, promises equally good results, and especially adapts the method to private practice in which it is particularly indicated on account of the shortened time required for union and the excellent functional results.

OPIUM POISONING.

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IN A paper on "Suicides" which I read before the Denver and Arapahoe County Medical Society in February, 1894, I reported twenty-eight cases of poisoning by opium. I have since then treated twenty-seven additional cases, making a total of fifty-five, eight of which proved fatal. One patient died just as I arrived. The other seven lived from one to twelve hours after treatment was commenced, except one man, mentioned in my former paper, who died from inanition after ten days had elapsed. Thirty-nine took morphin, thirteen laudanum, one aqueous extract of opium, and one gum opium. The drug was taken by the mouth in all but two instances. In one of these a young man allowed a woman who was addicted to the use of morphin to give him two hypodermic injections of the drug, each of about one-third of a grain, "just to be sociable," to use her own expression. The other patient smoked opium, and followed it up by taking a large dose of opium internally. The amount taken by the various patients varied from one grain to one dram of morphin, and from half an ounce to three ounces of laudanum. Thirty-five patients were already so far under the influence of the drug when first seen as to necessitate the use of the stomach pump for the evacuation of the stomach. The remainder were seen early enough for emetics to be of service.

The symptoms caused by opium when taken in poisonous doses may be divided into three stages: First, that of increased nervous excitability; second, a condition of somnolence or drowsiness; third, the stage of narcosis. The duration of the first two stages varies greatly in different cases. When a very large dose is taken, the first may be entirely absent, or may last only a few minutes. The patient in this stage acts not unlike a man partially intoxicated. The heart's action is increased, the face is

flushed, and the imaginative powers are increased. If the case is one of attempted suicide, the patient often tells, while in this condition, what he has taken. The second stage is of short duration if the dose has been a large one, its length increasing as the dose is diminished. If but little more than the medicinal dose has been taken, this stage lasts for several hours, and is followed by a return to consciousness. The condition at this time very closely resembles sound sleep. The respiration and pulse are normal, or nearly so, and the pupils are contracted. The patient, when aroused, is often annoyed by a violent itching of the skin, sometimes general, but more often confined to the face, especially the nose.

In the third stage, opium poisoning is sometimes differentiated with great difficulty from uremic coma, alcoholic narcosis, cerebral hemorrhage, and the condition following an epileptic convulsion. In uremic coma the pupils are usually normal or dilated, but may be contracted; convulsions generally occur, and anasarca is usually present. The urine is always loaded with albumin, and the temperature is said to be always below normal. In alcoholic narcosis the pupils are normal or dilated, the respirations are not as slow as in opium poisoning, and the pulse is slow and full. Too much dependence must not be placed upon the odor of alcohol, as the patient may have taken opium while intoxicated. A hypodermic injection of apomorphin will cause a man unconscious from alcohol to vomit, but will have no effect if the case be one of opium poisoning. In case of cerebral hemorrhage there is usually more or less paralysis of the cranial nerves, with some differences in the reflexes of the two sides of the body, and in the size of the two pupils. In the coma following an epileptic convulsion, the tongue will probably be bitten, the pupils dilated, and the respirations but little slower than normal. The history and surroundings are often more valuable aids to diagnosis than the physical condition. The occurrence of a convulsion at the beginning of the attack will exclude opium poisoning, although it may occur in any one of the other conditions named.

The prognosis in the first and second stages is usually good. In the third stage it is uncertain. Drunkards recover poorly, and the prognosis should be guarded when a drunken man takes opium, even when there is only slight absorption before the case is seen.

There are two objects to be attained in treatment. First, to remove or render harmless the opium still remaining in the stomach; and second, to support the vital functions until the poison has been eliminated from the system, or, if possible, destroy it in

the blood without waiting for the slow process of elimination.

The first of these indications can be met by emetics, the stomach pump, or by permanganate of potash. Of the emetics, apomorphin is probably the best, because the quickest. One-tenth of a grain should be given hypodermically if the case is in the first or second stage. It should never be given in the third stage, as it will not produce emesis after unconsciousness has supervened, and may cause dangerous heart-depression. In fact, I am inclined to believe that it has helped to cause a fatal result in some of my cases in this way. It will, however, act at a later stage of opium narcosis than any other emetic with which I am acquainted, so if an emetic is to be given at all I prefer the apomorphin. It is better to risk its bad effect on the heart than to fail entirely in producing emesis, unless a stomach pump is at hand. When a pump is available it should be used instead of an emetic if a patient is nearing the third stage, or, in other words, when he can only be aroused with difficulty.

Although the apomorphin produces no effort at vomiting when administered to an entirely unconscious patient it seems to depress the heart even more than when given to a partially conscious person. When the pump is used, the stomach should be filled with warm water and repeatedly emptied until the water is returned clear. The stomach should then be filled with hot, strong coffee. When apomorphin is to be given, the patient should be induced to drink as much water as possible while the hypodermic syringe is being prepared. If this is postponed until after the injection is given, nausea sometimes comes on so quickly that it is hard to induce the patient to drink a sufficient quantity to liquefy the contents of the stomach.

After the unabsorbed opium has been removed by the emetic or stomach pump, the respiration and circulation should be kept up by stimulants, of which there is a considerable number in use. I place the greatest reliance in strychnin, giving it in the form of the sulphate in doses of $\frac{1}{16}$ of a grain hypodermically as often as the respiration or pulse becomes weak. Atropin I consider useless, and I no longer use it except when it becomes necessary to do so to avoid censure from other physicians. Digitalis is of undoubted value when the pulse is weak. Aromatic spirits of ammonia acts nicely, especially when there is sudden failure of the heart's action. The inflammation which often follows its injection makes its use objectionable. I am undecided as to the merits of nitroglycerin. I do not favor the external use of cold water for the purpose of keeping the patient awake, as it is too depressing. Beating or abusing a

person for this purpose is also unjustifiable. The faradic current applied to the face and neck is much more efficient and leaves no bad effects. In many cases of opium poisoning, death has undoubtedly been due to the shock and exhaustion caused by the long-continued beating and forced walking to which the patient has been subjected by the well-meaning but misguided attendants.

The beneficial effects of the faradic current is no doubt due principally to the fact that it causes pain, or at least an unpleasant sensation, and thereby keeps the patient aroused. The current should therefore be strong enough to be decidedly unpleasant, and metal electrodes should be used. If a faradic battery is not obtainable, the next best thing is to keep the patient aroused by talking to him, pulling his nose, slapping him lightly, and similar procedures. Under no circumstances should he be dragged around the room between two men or severely beaten. Cases which recover under that style of treatment recover in spite of it, and not on account of it. The galvanic current, when available, is of undoubted benefit in stimulating respiration.

I have tried dilatation of the anal sphincter. It is of no more benefit than any other procedure which causes an equal amount of pain, and I think it unjustifiable. I hold the same opinion in regard to the rectal injection of irritating substances such as tincture of capsicum.

In the *New York Medical Record* of February 17, 1894, Dr. Moor published an article advocating the use of permanganate of potash as an antidote to morphin. He had taken as much as two grains of sulphate of morphin, followed by the same amount of permanganate, without feeling any effects from the dose. The remedy became famous in a day, although at that time it had not been tried except in the experimental way mentioned. Since then a considerable number of cases have been treated with this agent and reported, and a great deal of discussion has taken place in regard to its action. In all the cases I have been able to find reported, the usual remedies have also been used, and the result of the entire treatment has been about what I would expect without the use of the permanganate.

In another article by Dr. Moor on the subject, published in the *MEDICAL NEWS* of May 4, 1895, he makes the following bold statement: "I say that any physician on arriving at the side of a person suffering from opium poisoning, who does not at once administer to that person a sufficient quantity of the permanganate, commits an act of gross negligence." He then goes on to state three different indications for the use of the drug. The first is to neutralize any opium which may remain in the stomach. This

is effected by giving a sufficient quantity of the permanganate internally, well diluted. He allows one grain for each grain of morphin which has been taken. If the patient is sufficiently conscious to swallow, and the permanganate is certain to render the opium harmless, and I believe it is, this treatment does away with the danger of heart depression, which I have already mentioned as sometimes following the use of apomorphin.

The second indication, as given by Dr. Moor, is to destroy the morphin contained in the circulating blood through hypodermic injections of the antidote. That sounds very nice in theory, but I have put it into practice with disastrous results. I was called to see a man who had taken a large dose of morphin. The quantity could not be ascertained, neither could the time at which it had been taken, but he could not be aroused in the slightest degree. The respirations were four to the minute, and the pulse was weak and rapid. His stomach was emptied and thoroughly washed out, and then filled with hot coffee, and my usual treatment was carried out. At the end of two hours he was sufficiently recovered to fight vigorously when the faradic current was applied to his face. He spoke and nodded his head in answer to questions several times, and vomited the coffee which had distended his stomach. This case occurred soon after the permanganate treatment was first announced, and I had not as yet had an opportunity to try it. I had provided myself with a two-per-cent. solution, and, as the case now seemed in a fair way to recover, I decided to hasten the recovery by "destroying the morphin which was still in the circulating blood," to use Dr. Moor's expression. At intervals of about five minutes I gave hypodermic injections of the two-per-cent. solution, giving ten minims at each injection, until I had given 100 minims, which would equal two grains of the drug. The patient had by this time relapsed into insensibility, the pulse was very weak and rapid, and the respiration shallow. Happening to notice that the skin was very warm, I took the temperature, and was surprised to find it $102\frac{1}{2}^{\circ}$ F. in the axilla. It went up steadily to 103° , 104° , 105° , and 106° F., reaching the latter point before death, which occurred about five hours later. The treatment after the permanganate was used consisted of hypodermic injections of strychnin and digitalin. No autopsy was held.

In another case where a woman had taken two ounces of laudanum, I repeated the experiment with a smaller amount, giving sixty minims of a two-per-cent. solution hypodermically after evacuating the stomach by the use of apomorphin. The woman was sleepy, but was at no time unconscious, and I

did not consider her condition serious, as I had been called a few minutes after the dose was taken. Ten minutes after the permanganate was injected the temperature was $100\frac{1}{4}^{\circ}$ F., in thirty minutes it was 101° , in forty minutes $100\frac{3}{4}^{\circ}$, and it then went down, being normal eight hours later. On the following day there was again some temperature, due no doubt to the inflammation which had occurred at the site of each of the three injections. In two other cases in which I used the drug hypodermically I failed to take the temperature. Both patients were seen before the second stage was fairly ushered in, and both recovered, as I have no doubt they would have done without the permanganate, and so far as I could judge, the course of the cases was not modified by its use. In every case, except the fatal one, there was considerable local inflammation following its injection.

The third of Dr. Moor's indications is to decompose the alkaloid that returns from the circulation to the stomach. To accomplish this, he advises giving from time to time a tumblerful of a weak solution internally. When a permanganate solution is allowed to remain in the stomach a few minutes and is then withdrawn, it has lost its characteristic color and also its deoxydizing power, just as it does when a few drops of acetic acid are added to the solution. After the stomach is repeatedly washed with a solution of two grains to the pint, the fluid returns unchanged. The conclusion I draw from this is, that to have the permanganate retained in an active condition it is necessary to wash the stomach out with it often enough to temporarily stop the acid secretions from the mucous membrane of the stomach. When this is accomplished, the elimination of morphin from the blood by the stomach is necessarily also stopped. Therefore, if given in large quantities, it stops one important channel by which the poison is eliminated from the blood, and is useless if given in small quantities.

My position in the use of permanganate, stated briefly, is as follows: Taken internally, it renders harmless opium which still remains in the stomach. It is useless or injurious when given hypodermically. It is useless or injurious when given internally for the purpose of decomposing the opium which may return to the stomach through the circulation.

Belleuve Hospital Medical College.—The officers of Belleuve have secured a plot of ground on the corner of First avenue and Twenty-sixth street, 100×150 feet, adjoining the Carnegie Laboratory. Upon this site they propose to erect a modern and substantial structure. The work will begin immediately, and the building will be ready for occupancy on September 1st.

THE PHYSIOLOGICAL ACTION AND THERAPEUTIC USES OF YEAST NUCLEINIC ACID, WITH SPECIAL REFERENCE TO ITS EMPLOYMENT IN TUBERCULOSIS.

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(Continued from page 332.)

CASE XXIX.—J. B., of LaPorte, Ind., came to me in October, 1894. There was no family history of tuberculosis, or known source of contagion. This patient, aged twenty, is under size and weight, his greatest weight having been 118; weight at time of beginning treatment 113. He began to have continued sore throat and hacking cough three years ago, but had been coughing up phlegm only during last two months. There were crepitant râles over apex and subclavicular area on right side. There was a small cavity between second and third rib on right side. The right lung showed general dullness on percussion. The left lung showed no abnormality. The amount of sputum was not more than two ounces in twenty-four hours, but it was rich in tubercle bacilli. There were no night sweats, and the afternoon temperature seldom exceeded 100° F. This patient improved rapidly. By January 1, 1895, the cough had ceased, the temperature was constantly normal, and the weight had reached a few pounds above the maximum. From this time to first of March, 1895, injections were made two or three times weekly. In March, 1895, the only evidence of disease in the lung was some dullness and prolongation of expiratory sound on the right side. However, an interesting bit of the history of this case follows: As has been stated, the cough ceased by January 1, 1895. In August of the same year, the young man coughed up a few mouthfuls of sputum and sent this to me. It contained a few tubercle bacilli. The cough did not continue. From October 1, 1895, to January, 1896, this patient had from two to three injections per week. By June the cough had stopped, and he felt so well that he discontinued the treatment. From June, 1896, to August 1, of same year, this patient had from two to three injections per week, as a precautionary measure. Since August 1, he has had no treatment. He now (October, 1896,) weighs eight pounds more than ever before and has no cough. Examined his lungs carefully October 22, 1896. A very slight prolongation of the expiratory sound over the right apex is the only evidence of abnormality.

This case is of especial interest inasmuch as it demonstrates that apparent cures do not always mean the complete destruction of the bacilli in the body.

CASE XXX.—C. F., of Ypsilanti, Mich., a boy of seventeen, had numerous small cavities in both upper lobes when I first saw him in November, 1894. The treatment was given until February 1, 1895, when the patient was sent to Colorado. The first month of treatment seemed beneficial, but after that the dis-

ease progressed. In Colorado he had influenza and came home after four months and soon died.

CASE XXXI.—Miss A., aged twenty-six, of Saginaw, Mich., had bronchial breathing over both upper lobes. Consumption had been diagnosed two years before, and she had spent the preceding winter in the Adirondacks. She had treatment, beginning in November, 1894, and continued for six months. She gained in weight, and coughed and raised less. The bacilli continued in the sputum and the physical signs showed but little change. I have not seen her since she discontinued the treatment.

CASE XXXII.—Mrs. D., a colored woman, aged forty-two, living in great poverty, came under treatment in November, 1894. It was difficult to get any satisfactory family history. "Father died of chronic inflammation of the lungs, and one brother who was sick for a long while, died of pneumonia." She had been with both her father and brother in their last illness. Her bad cold had begun about one year before. During this time she had lost in weight, from 140 to 119 pounds. She coughed and raised profusely, and the sputum was rich in bacilli and in elastic tissue. There was a cavity in the right upper lobe and bronchial breathing on both sides. Treatment was continued as long as the patient was able to come to the office, which was about two months. The disease rapidly progressed and there was no evidence of any beneficial effect of the nuclein. Death occurred a few months later.

CASE XXXIII.—J. H., of Yale, Mich., aged thirty-four. His mother died of consumption at the age of fifty-six, three years ago. He was her principal attendant during her last illness. In January, 1894, he began to cough, and could not speak above a whisper. He had been coughing ever since, and had lost thirty pounds in weight, when I first saw him, which was in December, 1894. He had a large cavity in the right lung, bronchial breathing over the left lung, and tubercular laryngitis. He remained under treatment for three months. During the first six weeks he improved in flesh, gaining nearly fourteen pounds in weight. His throat was treated with a spray consisting of equal volumes of the one-per-cent. solution of nucleic acid and a saturated solution of boric acid. The condition of the larynx was much improved and the voice regained. However, during the latter half of his stay here, the condition of his lungs grew worse, and after going home he rapidly failed. The improvement was only temporary and, as stated above, the disease progressed while the treatment was being continued.

CASE XXXIV.—Miss B., aged seventeen, came to me December 4, 1894. She had tuberculosis of the right elbow-joint, which had been inflamed and painful for three years. This had been called rheumatism. The joint was discharging at the time of the first examination, and tubercle bacilli were found in this discharge. There was prolonged expiration over both apices, but no cough and no expectoration. There was a purulent discharge from the umbilicus. The afternoon temperature ranged from 100° to 101° F. The one-per-cent. solution of nucleic

acid was injected into the tissue about the joint and the sore was dressed with iodoform gauze. The nuclein was also injected for a few weeks about the umbilicus. The patient at that time remained under treatment until the first of July, 1895. Within six weeks after beginning the treatment, the temperature became normal, and has so remained, with one exception to be mentioned. By the first of June, 1895, the joint had so far improved that the young woman could use the hand in playing on the piano, could feed herself with the right hand and could use the arm in dancing. The discharge had ceased, the wound healed, and further treatment was considered unnecessary. This favorable condition continued until February, 1896, when the joint received two bad blows. Once it was struck with considerable force on the tire of a carriage wheel, and the second time the patient fell on the ice striking on that elbow. March 24, 1896, she returned with a swollen joint and a temperature of 100° F. Dr. Nancrede made an incision, and with a curette removed some tubercular matter. The arm has been carried in an aluminum splint since that time, and the wound washed out daily with the one-per-cent. solution of nucleinic acid. The five-per-cent. solution has been administered by the mouth in teaspoonful doses three times a day. Her general health remains good, and there is no abnormality detectable in the lungs.

[March, 1897. The wound has healed and the general health of the patient is excellent.]

I may call attention in this connection to the favorable reports made by Hitchcock¹ on nuclein in a case of hip-joint disease.

CASE XXXV.—S. M., aged twenty-seven, of Bedford, Mich., was sent to me February 22, 1895, by Dr. G. W. Lowry of Hastings. His wife died of consumption August 8, 1894, after an illness of one year. The husband took care of her during this sickness. About three weeks before her death he began to have a sensation of great weariness and some elevation of temperature. At the time of the first examination, the only physical evidence of the disease was a marked retraction of the left apex and a prolongation of the expiratory sound over this region and the subjacent area. He coughed very rarely in the morning and then raised some sputum, in which a few bacilli were found. The loss in weight had been about ten pounds. The afternoon temperature ranged from 99° to 100° F. After four weeks of treatment the normal weight was regained, the cough ceased entirely and the patient has remained apparently in perfect health since.

CASE XXXVI.—E. A. R., a farmer, aged fifty-four, from Covert, Mich., came to me in November, 1894. His mother died of consumption many years ago. He was not with her in this illness. His mother's sister also died of consumption. One of his own sisters had been an invalid for fifteen years from a fall, and coughed much before her death. Another sister had died some seven years before of quick consumption. He had occasionally visited these

sisters during their illness. Five years ago he had a hemorrhage, "followed by pneumonia." In 1890 he had a severe hemorrhage. From the time of the first hemorrhage, in 1889, he had not been well and had steadily lost flesh. In 1893 he had another hemorrhage, and still another about one month before he came to me. He was coughing and raising freely. The sputum contained numerous bacilli and some elastic tissue. His greatest weight had been 175, and at the time of the examination it was 152 pounds. There were numerous small cavities in the upper lobes. This patient remained with me only four weeks, but continued the treatment with Dr. Carnes, of South Haven. Dr. Carnes wrote me under date of March 1, 1895, as follows: "Mr. R. has been under the nuclein treatment now for three months, in addition to the one month spent with you. He now weighs four-and-a-half pounds more than he did at Christmas. His temperature is practically normal all the time, seldom reaching 99° F. However, he coughs much, a clear, ringing cough, without much expectoration. He never before had a three-months' rest, and this has probably contributed to his gain."

A second report from Dr. Carnes under date of November 22, 1895, states: "He coughs much, and says that he cannot endure hard work, but it is plain to see that he is in better flesh and far more vigorous than he was last spring. He has for several years vacillated in this way, so I can see but little difference between the last year and several preceding years."

Recently (October 24, 1896,) Dr. Carnes wrote that this patient, who has had no nuclein now for more than a year, is gradually, but slowly failing in health.

CASE XXXVII.—Miss K., aged thirty-one, of Marinette, Wis., came to me for treatment in January, 1895. There was no known tuberculosis in the family, nor was there any discoverable direct exposure to the contagion. The patient had always been rather frail, her greatest weight having been 120 pounds. However, she had never been ill, until three years before, when she developed a "chronic bronchitis," accompanied by constant cough and profuse expectoration. Sixteen months before coming to me she had gone to Oregon, where she spent a winter, during which she gained thirteen pounds in weight and felt much improved, but even before her return home she began to fail again. Her appetite was very poor and her tongue heavily coated. The sputum contained numerous bacilli and much elastic tissue. There was bronchial breathing over the whole area of both upper lobes. There were numerous small cavities in the same region. The patient remained under my treatment until June, 1895, when she returned to her home, and the nuclein treatment was continued by Dr. Hicks of Menominee, Mich. The result of the treatment was the same in this case as it has been in all others of the same class. There was temporary improvement, with increase in weight, reaching and even passing the previous maximum, and then retrogression, not-

¹ *American Lancet*, January, 1895.

withstanding the continued employment of the nuclein.

CASE XXXVIII.—Mrs. Q., aged thirty-two, of Gaylord, Mich., was brought to me in January, 1895. I say that she was "brought" to the office, and this is literally true. She was in the last stages of consumption, and after an examination, in which I found numerous cavities in both lungs, I advised her husband to take her home as soon as possible. However, he thought that an immediate return would discourage her so greatly that he insisted on a trial of the remedy for nothing more than its mental effect. This case illustrates what hope and nuclein, probably as much should be attributed to the former as to the latter, may do in the way of temporary improvement. This lady insisted on having full doses every day, and they were given. When I state that she gained twenty-five pounds in five weeks I expect to tax the confidence of the reader in my statements to the utmost; but such was the case. Her afternoon temperature fell from an average of 102° F. to less than 100° , and while she had to be brought in her husband's arms from the carriage into the office when she first came, before she left the city she walked many blocks at a time without feeling great fatigue. At the end of five weeks she insisted that she was practically well, and desired to go home. Believing that the arrest of the progress of the disease was only temporary, I made no objection. She returned home, soon lost what she had gained, and died in September, 1895. I desire it distinctly understood that I do not attribute this great temporary improvement wholly to nuclein. It was one of those phenomenal cases of temporary improvement in which the bacillus seems for a time to have lost its virulence, and the vitality of the patient seems to spring into increased vigor at a bound. The nuclein was not used after she left, but I know that even had its employment been continued the relapse would have come with equal certainty.

CASE XXXIX.—M. G., a student, aged twenty-four, came to me in February, 1895, on account of a slight pulmonary hemorrhage which he had at that time. He was coughing up blood. This was examined and found to contain tubercle bacilli. Treatment was begun immediately and continued for two months. On the first examination moist râles were heard over the apex and subclavicular area of the left lung. The afternoon temperature frequently reached 101° F. for two weeks. After this it gradually fell to the normal. The young man continued his studies until June, 1895, when a physical examination failed to reveal any abnormality. He spent the winter of '95 and '96 in Colorado as a precautionary measure, and there has been no evidence of any disease since the treatment was discontinued.

CASE XL.—W. S., a stone cutter from Bluffton, O., came in February, 1895. This case is almost a duplicate of the one just described and several others of a similar character will be mentioned later. A brother-in-law of this man had died of consumption in his house, after a long illness, some months before. S. had a hemorrhage and came to me still raising

sputum containing some blood. Bacilli were found but were not abundant. There were râles in the apex and subjacent area of the left lung. There was the characteristic fever curve. After four weeks of treatment the lung cleared up and the man has continued in apparently the most robust health.

CASE XLI.—Miss C., of Allen, Mich., came under treatment in March, 1895. There is no need of detail in this case. The disease was in an advanced stage with cavities and an afternoon temperature often as high as 103° F. There was temporary improvement indicated by a fall in the temperature and a gain in weight. This was followed by retrogression and a gradual decline.

After her return home Miss C. was under the charge of Dr. Williams of Jonesville, Mich., who has kindly furnished the following:

"After her return home from Ann Arbor, some time in the early summer of 1895, I continued the nuclein treatment, at first by internal administration, with negative results, as demonstrated by rise of temperature from $99\frac{1}{2}^{\circ}$ to 103° F. Pulse 130. Respiration 22 to 24. Increase of cough, profuse expectoration, and return of night sweats. I then sent for a large syringe and treated her hypodermically, with the result that temperature, pulse, and respirations, were reduced. Appetite in a measure returned. Cough and expectoration modified, and a seeming arrest of the progress of the disease. This condition continued for about four months, or until late fall. During this time I gave her daily treatments at first, then as better symptoms returned, she came for treatment every other day. I injected from 30 to 80 drops of a one per cent. solution, and without the slightest symptom of an abscess at any time.

"From the first of November, until her death—some three months—the history of her case is that of tuberculosis in the last stage of the dread disease.

"While 'nuclein' hypodermically did not entirely arrest the progress of the disease I am satisfied it prolonged her life several months."

CASE XLII.—Miss O., aged twenty-six, a student, came under observation in March, 1895. Her mother and a sister and a brother of her mother and a brother of her father died of consumption. The mother died five years ago, after a long illness, during which the daughter attended her. This patient has always been frail and anemic. Four years ago her physician told her that one lung was diseased, and three years ago she had a long-continued low fever, which was called typhomalarial. She has coughed for four years. The quantity of sputum raised was small, but I never saw another specimen so rich in bacilli as was this. There was a large cavity on the right side, and râles were heard over the whole of the upper lobe on this side, and from the apex to the base in the left lung. The weight at the time of beginning the treatment was 98 pounds. The patient remained under my treatment until October 7, 1895, having an injection of nuclein nearly every day during this time. In October I could not see that her condition was materially different from what it was in the preceding March. Her

weight was 100 pounds, and the physical signs remained practically unchanged. I advised her to go to Colorado, and she did so in October, 1895, and placed herself under the care of Dr. Henry Sewall, of Denver. In February, 1896, Dr. Sewall sent me the following condensed record: "Miss O., aged twenty-seven, with poor development and very anemic. Some percussion dulness and fine râles throughout upper half of right lung, and similar sounds found through the left lung nearly to its base; rather dry, cavernous sounds under right clavicle; pallor of pharynx and larynx, and slight swelling of mucous membrane over and between arytenoids. She has received nuclein injections every second day, or oftener, for two-and-one-half months, and has gained four pounds. Her lungs are drier and the morbid signs are less extensive."

In September, 1896, Dr. Sewall reported the continued improvement of this patient.

CASE XLIII.—Miss G., aged twenty-five, of Brighton, Mich., came under my care in March, 1895. Her father died of consumption in 1891, and this young woman, always frail, was a constant attendant in his last illness. The mother is living and well. The patient has one sister, who has been married and away from her father's home for several years. This sister is in good health. A brother, who also was with the father during his sickness, has recently been declining in weight and failing in health. As stated above, the patient had always been frail. Her maximum weight was 108 pounds, and she has always been anemic. In 1893, while at the fair in Chicago, she caught cold, and has been coughing and expectorating ever since. The greater part of the winter of 1894 and 1895 had been spent in the South, but the disease had apparently made rapid progress during this time. At the time of her coming to me she was having "chilly sensations, followed by flushed cheeks, every day." There were small cavities in the right upper lobe, and bronchial breathing over the upper half of the left lung. She continued with me until October, 1895; and her history differs materially and favorably from the others of the same class. Up to the middle of August there seemed to be no improvement, and the afternoon temperature frequently went up to 103° F. At the time mentioned, the maximum daily temperature began to fall, the appetite improved and the weight increased. The physical signs showed marked improvement. During the latter half of September the temperature seldom exceeded 99° F. I thought this a good time to send the patient to Colorado. She went in October, and has slowly improved without further medication.

CASE XLIV.—Mrs. E., aged thirty-one, of Ann Arbor, came to me in April, 1895. One sister had consumption for some years, but died in labor. This sister lived with Mrs. E., and as no precautionary measures were taken, the chance of transmission of the contagion was great. A brother, also, developed the disease, and his case will be mentioned later. For nearly a year Mrs. E. had been losing flesh and complaining of great lassitude. A pulmonary hemorrhage sent her to me. For five or six days she

coughed up blood, and this was repeatedly examined. Tubercle bacilli were present, but were not numerous. The source of the hemorrhage was evidently in the left apex. Over the whole of the upper left lobe there was dulness, and moist râles could be heard. The afternoon maximum temperature was for some days as high as 102° F. Treatment was begun immediately, and continued daily until October, 1895. From this time to March, 1896, the injections were made twice a week. Since March the patient has had no treatment. She weighs now 25 pounds more than her maximum weight before April, 1895. I can now (October, 1896) find no trouble in the lungs.

CASE XLV.—Mrs. S., aged twenty-six, of Chester, Mich., came under my observation in April, 1895. There was a history of direct contagion. She had helped to care for a consumptive neighbor and no precautions against infection had been taken. The patient was in an advanced stage of the disease. There were numerous small cavities on the left side and consolidation on the right in the upper lobes. The maximum temperature was from 102° to 103° F. The treatment was administered for three weeks without any appreciable effect on the rapid progress of the disease. Death occurred within a few weeks after the patient's return home. In this case there was not even a temporary improvement.

CASE XLVI.—V. F., aged twenty-four, a medical student, had a hemorrhage in April, 1895. Tubercle bacilli were abundantly present in the blood. There was the pneumonic infiltration and the characteristic fever of tuberculosis. Treatment was given daily to October, 1895, then omitted to February 25, 1896, then three times per week until June, 1896. The summer of 1896 was spent in the Adirondacks without treatment. During this time the disease progressed. When he left Ann Arbor in June, 1896, he had no cough. On his return he was raising some sputum every morning and this contained bacilli. October, 1896, he has returned to college and I find bronchial breathing over the right apex. He now weighs 145 pounds, more than he ever weighed before, but, as stated above the sputum contains bacilli.

CASE XLVII.—G., aged twenty-one, of Ann Arbor, is the first of a class which has furnished me with only a few representatives. There was no hemorrhage, but the patient was brought to me on account of a "bad cold" and a cough which had persisted for "some days." The maximum daily temperature was between 101° and 102° F. going occasionally, but exceptionally, to 103° F. There was bronchial breathing with moist râles over the upper half of the left lung. The sputum contained numerous tubercle bacilli. Treatment was continued until October, 1895. The bacilli disappeared in August, and the cough ceased a little later. The temperature became constantly normal about the time the bacilli disappeared. The râles and the dulness disappeared, and the only suspicious sound heard on auscultation was due to some prolongation of the expiratory act. Late in the fall of 1895 this patient

went to Colorado as a precautionary measure. He remains there and reports himself well. I believe that in this case the tubercular invasion had not extended very far when the treatment was begun.

CASE XLVIII.—Mrs. D., aged thirty, of Ann Arbor, belongs to the same class as the preceding one. She had a cough in February, 1895, when I examined her lungs, and believed from the evidence thus obtained that she had tuberculosis, but repeated examinations of the sputum which she was then raising quite freely failed to reveal any tubercle bacilli and the nuclein was not used. After continuing for two weeks the cough ceased. In April another bad cold with cough and expectoration brought her to me again. This time the bacilli were found. Treatment was given for three months and then wholly discontinued. The cough ceased in a few weeks as it had done before, and she passed through the winter of 1895 and 1896 without a "bad cold." She was pregnant at the time of treatment and has borne a healthy child since. Now, there is no evidence of the existence of tuberculosis.

CASE XLIX.—K., a medical student, aged twenty-five, spent the summer of 1894 partly in taking care of several tuberculous patients. In May, 1895, he had a hemorrhage. In the bloody sputum the tubercle bacillus was easily found. The nuclein treatment was begun immediately and continued for two months. He then went to Colorado and located at Fort Collins where he practices medicine. He reports himself as being quite well.

CASE L.—Mrs. L., of Jackson, Mich., aged thirty-two, came to me in June, 1895. She had three children, all of whom were well. The father was then living and well. Her mother died at the age of forty-one of consumption. Four of her mother's and one of her own sisters died of consumption. She had been with this sister during her illness. The patient began to recognize the fact that she was not well early in the fall of 1894. She began to cough and raise about January 1, 1895. At the time of the first examination she was coughing and raising very profusely. She had exhausting night sweats. The average afternoon temperature for four days before the first injection of nuclein was 102° F. There was bronchial breathing over both upper lobes. The appetite was poor. This patient improved temporarily, then lost what she had gained. The treatment was continued about three months, and the condition at the close of this period showed no improvement. She died in August, 1896.

CASE LI.—Mrs. W., aged thirty-eight, of Lima, O., was first seen early in June, 1895. She had been married fifteen years, and had two healthy children. Her father had died at the age of seventy-six and her mother was then living at the age of eighty. She had seven sisters, one of whom had died about two years before of consumption. She had been with this sister during her illness. She had her first hemorrhage in May, 1894, and had coughed and raised some ever since. Strange to say that during this year she had gained in flesh. She was in good flesh (I find that I failed to record her weight), and

did not by any means present the appearance ordinarily supposed to be characteristic of consumption. There was bronchial breathing over the whole of the left upper lobe and over the greater part of the right upper lobe. The amount of sputum raised was small, but it contained the bacilli in great numbers. Her appetite was good, and she retained her healthy appearance as long as she was with me, which was until the middle of October, 1895. This patient did not do well. Hemorrhage followed hemorrhage. The quantity of blood raised at a time was small, but it was continuous. I cannot say that there was even temporary improvement. The temperature seldom went as high as 100° F. In October, 1895, she went to Denver, where she continues to reside. The hemorrhages still occur.

CASE LII.—Miss R., aged twenty-eight, was sent to me by Dr. Steiner of Lima, O., in June, 1895. Father and mother were living and well. One brother died of consumption six years ago. The patient was with this brother during his illness. She had been teaching for eleven years in the public schools of Lima. She had influenza four years ago, and has been more or less hoarse, with some cough, since that time, but she has attributed this condition to the unwholesome air of the schoolroom and to the constant use of her voice. During the vacation of 1894 she worked in the slums of Chicago, although at that time she was feeling much out of health. She first consulted a physician in May, 1895, when she went to Dr. Steiner, who immediately recognized the true nature of her trouble. Respiration over both upper lobes was wholly bronchial. The sputum was purulent and contained numerous bacilli. The maximum temperature averaged 100° F. She rapidly improved temporarily until the middle of August, when she had a chill every other day for a week, her tongue was heavily coated, and she loathed food. A mercurial, followed by large doses of quinin, seemed to remove this trouble, which I regarded as an intercurrent attack of malaria. She soon began to improve, and I consented to her returning to Lima and resuming her work as a teacher. Some three weeks later she suddenly developed a pleuritic effusion on the left side. Some of the fluid was drawn by Dr. Goebel and sent to me. It contained tubercle bacilli. Notwithstanding the most intelligent treatment by Dr. Goebel, the patient rapidly failed, and died in February, 1896.

(To be continued.)

CLINICAL MEMORANDA.

THE VALUE OF "COGWHEEL" INSPIRATION AS AN EARLY SIGN OF PULMONARY TUBERCULOSIS. TWO ILLUSTRATIVE CASES.

By J. P. ARNOLD, M.D.,

OF PHILADELPHIA:

PHYSICIAN TO THE PRESBYTERIAN HOSPITAL DISPENSARY.

In the physical examination of a number of chests, I have been much impressed with the value of "cogwheel" or interrupted inspiration as a sign of beginning tuber-

culosis of the lungs. I have found this sign present in cases when there were no changes in the percussion note, or in the vocal resonance, and when there was neither cough or expectoration, yet the patients have subsequently developed very definite physical signs, and showed the presence of tubercle bacilli in the sputum. The importance of an early diagnosis in pulmonary tuberculosis cannot be overestimated, as it is only in the early stages that we can hope to cure the disease. The earlier the diagnosis is made, the better the chance for effective treatment.

It is true that this peculiar form of inspiration may be caused by other conditions than that of beginning tuberculosis; nevertheless, its occurrence immediately below the clavicle, especially on the *left* side, should always arouse our suspicion; and whenever there is an hereditary tendency present, the history of exposure to infection, or any progressive failure of health and strength without other assignable cause, it may be considered a very distinctive sign, and treatment should be instituted at once.

The subjoined cases, occurring within the past year, have brought this more forcibly than ever to my notice. In the first case, the cogwheel inspiration was present with other conditions, which made the diagnosis more certain. Both of the cases occurred in apparently healthy young women applying for admission to the training school of one of our hospitals.

CASE I.—R. E., aged twenty-five, weight 116 pounds, height five feet eight inches. A brother had died of phthisis. She had always been quite healthy. The chest was long and flat. The vocal fremitus over the left apex immediately below the clavicle approached that of the right side in intensity (a suspicious sign in itself). Just below the middle of the left clavicle there was very marked interrupted jerky inspiration. Expiration was apparently normal. The percussion note over the apices, while not of the best quality, was not sufficiently impaired to indicate distinct disease. There were no other physical signs present. In spite of advice, this young woman neglected to take proper care of herself, and in the course of three months there were undoubted physical signs of consolidation at the left apex. There was cough, expectoration of nummular sputum, night-sweats, and loss of flesh. There had also been a small pulmonary hemorrhage. Because of the perversity of the patient, I was unable to obtain a specimen of the sputum for microscopic examination.

CASE II.—E. M., aged twenty-two, weight 133 pounds, height five feet seven and a half inches. Both parents, two brothers and two sisters living and healthy. No history of lung trouble in the family on either side. The patient was a well-built, healthy-looking girl. The physical examination made at the time of admission was entirely negative, except that a few piping râles were heard over the left apex. The statement that she had recently taken cold, and that she had once had a slight attack of asthma, with the further statement that she had only had a cough for two or three days, with no expectoration, was considered sufficient to explain this sign. Probably the limitation of the râles to the upper lobe should have excited my suspicion, but the character of the

râles, the fact that they shifted in position, and the entire absence of other signs, led me to consider the condition trivial.

In the course of about six weeks the young woman was sent to me again, complaining of a cough, substernal pain, and expectoration. There was no loss of weight, and the general health was very good. Temperature taken for several days was always normal. The cough was worse in the morning. The examination of the chest was negative, with the exception of well marked "cogwheel" inspiration below the left clavicle. Several examinations of the sputum showed numerous characteristic tubercle bacilli. I had her under observation for about four weeks after this examination. The physical signs remained the same, and the presence of the bacilli continued in the sputum.

The two cases cited above, I think, illustrate clearly the value of the sign mentioned. The occurrence of the piping râles in Case II., even before the interrupted inspiration, is, I think, unusual. Should it be present in another patient, I would watch the case carefully for the occurrence of other physical signs.

A CASE OF ATYPICAL TYPHOID FEVER COMPLICATED BY THROMBI OF THE RIGHT AND LEFT CRURAL VEINS.

By LAWRENCE ASHTON, M.D.,
OF DALLAS, TEXAS.

MISS B., a resident of Norwich, Connecticut, aged twenty-seven, after two years spent abroad, reached Dallas, September 27, 1895, with slight fever, believed to be due to fatigue incident to travel and change of climate. Not improving, however, I was called to see her eight days after her arrival, when, upon examination, the following conditions were found to exist: Great nervousness, persistent headache, nausea, constipation; tongue coated, with red edges; temperature 103° F., morning; 101° F., evening; pulse 120. This condition of things continued until October 30th, when the exacerbations occurred each evening, ranging from 104° F., in the evening to 101° F., in the morning. November 5th she had a profuse hemorrhage from the bowels, with extreme prostration. The hemorrhages occurred at intervals until November 15th. There were no hemorrhages after this time, but the stools were liquid, very offensive, and passed involuntarily. Fever continued until December 12th. There was constant delirium, which continued for weeks after the patient was free from fever. For several weeks it was necessary to use the catheter, on account of inability to pass urine.

On December 1st the patient complained of pains in the right leg, which soon became greatly swollen, tense, and hot. The pain was so great that nothing afforded relief but large doses of morphin and atropin, administered hypodermatically. As the inflammation in the right limb was subdued, the left leg showed the same conditions, with the most intense suffering imaginable. Later there was marked neuritis of the hands and arms.

Treatment.—The diet, from the beginning, was chiefly

of milk, or milk diluted with limewater, aerated waters, or malted milk and beef juice. For the pyrexia the Brand method was strictly carried out, the patient remaining in the bath from fifteen to twenty minutes, being then taken out and wrapped in dry sheets and covered with a light blanket. The antiseptic medication consisted in the administration of small doses of corrosive sublimate, naphthol, carbonate of creosote, and guaiacol. Tympanites and abdominal pain were controlled by turpentine stupes. Hemorrhages from the bowels were treated with opium and acetate of lead, or hypodermics of morphin and strychnin, and by means of an ice-bag applied over the abdomen, which measures, for the time being, always controlled the hemorrhages. The enlargement and edema of the lower limbs, due to thrombi in the crural veins, was treated by elevation of the limbs and local applications of flannels wrung out in extract of witch hazel as warm as the patient could bear it. Strychnin, hypodermically, was administered constantly in gradually increasing doses, until she was taking one-fifteenth of a grain every four hours. She received but little medicine by the mouth, as the stomach rejected almost everything. Alcohol, in any form, was never retained.

The patient made a slow recovery, and not until April 15th, nearly seven months from the time she was taken sick, was she able to return to her home.

FOREIGN BODY IN THE KNEE-JOINT LOCATED BY MEANS OF THE ROENTGEN-RAY.

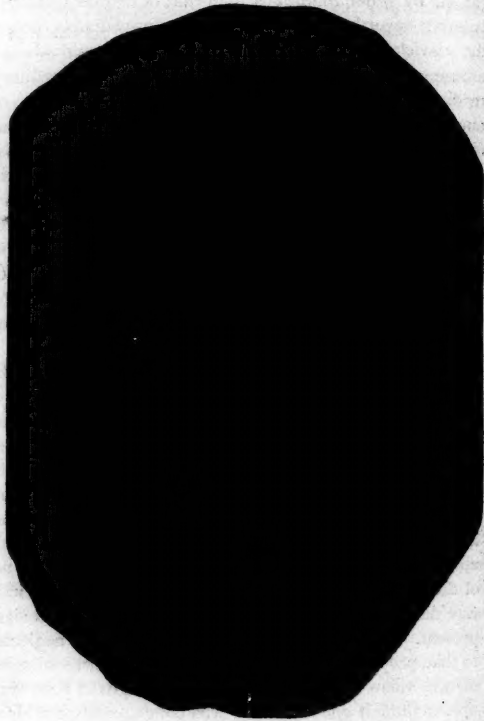
By HERBERT B. PERRY, M.D.,
OF AMHERST, MASS.

THE accompanying X-ray photograph is that of the knee of a girl nine years of age. It was taken to demonstrate the presence of, and to locate if possible, the five-eighths-inch missing point of a pair of scissors with which she had wounded her knee four days previously. The history of the case is as follows: Two days before I saw her, while kneeling on the floor, she felt a sharp pain in the left knee. Investigation by her mother revealed a wound about four lines in length, a little below and external to the median line of the patella. What appeared to be the bottom of the wound was cleansed thoroughly, and the child was put to bed.

The scissors found upon the floor where the accident occurred was an old pair, and no member of the family was sure that the broken blade was not in its then condition prior to the accident. When I was called in to see the patient I found that the knee was swollen, hot, tender, and painful. I advised the use of the X-ray, and the procedure was carried out at the Physical Laboratory of Amherst College by Professor Kimball. An electrical current sufficient to produce a $2\frac{1}{2}$ -inch spark was used. Before the plate was exposed, I was able to locate the foreign body in the joint by the use of the fluorescent screen. In order to have some landmarks to work by in operating for its removal, a long, flat key, the only available piece of metal of proper shape and size, smeared on the point with ink, was passed between the light and the knee, and the knee and screen, until it was seen to touch

the skin at the location of the foreign body. In this way both the distal and proximal end of the scissors-point was noted on the external and internal surfaces of the knee. The mark was afterward made indelible with nitrate of silver.

The next day the child was etherized, the site of the operation having been rendered aseptic, and an Esmarch bandage was applied. An incision was made from the lower border of the patella downward about three inches. The path of the scissors-point could be seen, the blood having settled along its course, and showing clearly in the surrounding bloodless area. It was necessary to open



Skiagraph of a scissors-point in the knee-joint of a child.

the joint and to divide part of the external lateral ligaments and the quadriceps extensor tendon. Extreme flexion of the leg on the thigh was necessary to enable me to reach the foreign body, and it was found to be embedded for nearly its entire length in the extreme posterior part of the articular surface of the external condyle. The skiagram apparently does not indicate that such was the case. The fact that it was entirely buried may be accounted for by the accidental extension of the leg while the child was being etherized.

After ten days the dressings were changed for the first time. The wound had healed nicely. During this time the patient had not suffered pain, and the temperature did not rise above normal. Six weeks have elapsed since the operation. The knee is movable, and I look for practically complete recovery of function.

MEDICAL PROGRESS.

Supposed Precocious Menstruation.—The reports of menstruation in infancy and childhood which are so often made are not to be too readily accepted. COMBY (*L'Union Médicale*) found ordinary vulvo-vaginitis sometimes accompanied by distinct hemorrhages. In three cases of children, of two, three, and six years of age, which had been mentioned as instances of precocious menstruation, he found that the blood came not from the uterus, nor from the vagina, but from vascular granulations about the meatus urinarius, which bled freely if touched. This condition was cured by weak injections of permanganate of potassium and cauterization with a 1 in 50 solution of nitrate of silver.

A Point in the Diagnosis of Renal Calculus.—BROOK (*Brit. Med. Jour.*, December 19, 1896) narrates two cases of renal calculus in which the diagnosis was obscure. In both cases heavy percussion below the tip of the last rib caused acute stabbing pain in the loin. The writer looks upon this symptom as a most valuable, though little known, means of diagnosis of renal calculus. In his two cases the urine was repeatedly examined microscopically, but neither blood or pus was ever found. The absence of this peculiar pain does not, of course, negative the existence of a stone. The character of pain caused by percussion in a case of impacted gall stone or abdominal inflammation, such as appendicitis, is not the same as when a renal calculus exists.

Relation of Adenoids to Deafness.—FRANKENBERGER (*Centralbl. f. Chir.*, No. 50, 1896), who examined 159 children in the deaf mute institute in Prague, found hypertrophy of the tonsils in 94—that is, 59.1 per cent. In 43 cases there was evidence of alterations in the middle ear, either chronic suppuration or its sequelae. Of these 43 children, 37—that is, 86 per cent.—had adenoid growths. The frequency of the occurrence of adenoids in deaf mutes has often been noticed, and the writer believes, with other recent authors, that deafness is many times due to acquired disease in cases which are classed as congenital, and that prophylactic and therapeutic measures would have saved hearing and speech in such cases.

The Application of Schleib's Method of Cocainization.—GOTTSTEIN (*Centralbl. f. Chir.*, No. 50, 1896) published results of cocainization by the method of infiltration in 118 operations. Nearly one-half of these were for the extirpation of tumors. There were eight cases of resection of the vas deferens, two cases of strangulated hernia, ten gastrostomies, and several exploratory laparotomies. One advantage of this method is that the patient can usually get down from the table immediately after the operation, so that hypostatic pneumonia, which so often follows other operations in feeble patients, is avoided. It was a great pleasure to observe how slight a reaction followed these "major" operations. As far as possible an Esmarch bandage was used after the injections were made. The anesthesia usually lasted thirty minutes,

sometimes still longer. In only two cases was there any evidence of cocain intoxication.

A Giant Fetus.—OLANO (*El Monitor Medico*) performed an autopsy upon a well-formed woman, aged thirty-nine, who had died after four days of labor pains and an unsuccessful attempt to deliver the child by forceps. The fundus of the uterus was just under the liver. It contained a well-formed female fetus with the head downward, which measured 68 centimeters (27 inches), and weighed 10,000 grammes (26 lbs.). The mother had had three normal and two premature confinements. There was non-medical and purely subjective evidence to the effect that the woman was many months past full term.

Respiratory Gymnastics in the Treatment of Disease.—CAMPBELL (*British Medical Journal*) finds that respiratory exercises favor the circulation of blood and lymph and promote the normal action of the abdominal organs. They are of service, therefore, not only to patients with cardiac affections, but to many of those who suffer from functional nervous diseases. Respiration is of three types—diaphragmatic, that in which the lower ribs are involved, and a purely costal respiration. That type is chosen, which is especially fitted to the disease to be treated.

Abscess of the Brain—Localization, Treatment.—STIERLIN (*Korrespondenzbl. f. Schweiz. Aerzte*, No. 15, 1896) reports a case in which a railroad laborer, twenty-six years of age, about eight days previous to his entrance into the hospital, was struck on the forehead with a large stone with such force as to render him unconscious for half an hour. A bandage was applied and, in the meantime, he went about feeling tolerably well. On admission to the hospital a large gaping pus-discharging wound was found in the soft parts covering the left forehead. The base of the wound was formed by the frontal bone denuded of periosteum, in which there was a gaping, depressed fracture. In the bone fissure radiating from the central depression a piece of felt from the patient's hat was included. Resection was performed. The dura was intact. A tampon of iodoform gauze was used. In the beginning no marked reaction was discernible. About the tenth day, however, the patient was overcome by a heavy drowsiness and psychical changes were observed. About fourteen days after the operation involuntary urination and defecation supervened. Increasing debility, apathy, and a continuously increasing diminution in the force of all the vital functions, together with a noticeable paralysis of the right side of the face, set in. There was no fever. The diagnosis of abscess of the brain was made. Eighteen days after the onset of the first symptoms, the presence of pus in the brain having been first positively ascertained by an exploratory puncture, a large abscess in the left frontal lobe was opened. More than 100 cubic centimeters of ropy pus was evacuated, the cavity being twelve centimeters in width. The cavity at first was drained with strips of iodoform gauze; later, with rubber tubing. A small pulsating, prolapsing portion of the brain substance was held in place by compresses. The

wound in the brain substance required more than two months for cicatrization. Three and a half months after the incision, and about forty-five days after complete cicatrization of the wound, the defect in the bone was covered up by grafting. Recovery was complete. As regards the exploratory puncture in cases of brain-abscess, Stierlin advocates the method of von Bergmann, namely, to use the knife instead of the needle, in substantiation of which he cites a case in which, after trephining, the exploratory puncture was negative, notwithstanding that the autopsy showed a large abscess in the parietal lobe just beneath the part trephined.

Bronchial Asthma Occurring Only During Menstruation.—

The so-called asthma uterinum is of rare occurrence, and its existence has been disputed by some. Katz reports a case in which the sputum possessed characteristic features of asthma, namely, Leyden's crystals, spirals, and sago-like pellets. The attacks of asthma and this characteristic sputum were present only during the menstrual period. The patient, aged thirty-two years, was in every other respect healthy. Nothing in her family or personal history explained the occurrence of these asthmatic attacks, which had existed about a year.—*Deutsche Med. Wochenschrift*, Dec. 10, 1896.

An "Epidemic" of Appendicitis.—GOLOUBOFF (*Gazette Médicale*, December 26, 1896) considers the possible epidemic nature of appendicitis. He refers to the usual rarity of the affection in Moscow, and to the sudden appearance there of a number of cases. Three pupils in one school who occupied the same bench were attacked by the disease on the same day. Appendicitis is thought to be caused by the microorganisms of the intestine. Under the action of causes as yet unknown, the coli bacillus, the streptococcus, and staphylococcus suddenly take on a more than ordinary virulence. Golouboff compares the epidemics of appendicitis to the little epidemics of tonsillitis which frequently occur.

Artificial Respiration in Intrathoracic Operations.—

TUFFIER and HALLEON (*Gazette Hebdom. de Med. et de Chir.*, No. 95, p. 1131) report experiments upon dogs under chloroform, in which, by means of a tracheal tube and bellows, the movement of the lung may be so contracted as to avoid pneumothorax after opening the pleural cavity, and to simulate normal respiration during such operations. By this method, aided by an incandescent lamp, much of the pleural cavity and the mediastinum is accessible to operation. The insufflated air should be sterilized by heat. No complications or disturbance of pulmonary circulation have followed this procedure.

THERAPEUTIC NOTES.

Cresal in Typhoid Fever.—POSAGUY (*Medicus Koid Obosrenié*) has employed cresal in eighty-seven cases, as an emulsion in water and given in milk. Beginning with fairly large doses, these were increased up to forty-five or even to ninety drops per day.

There were no complications and no changes in the

urine. The tongue and mouth became clearer, meteorism diminished, the patients felt well, and appetite returned. The stools decreased to one or two per day, lost their offensive odor, and took on their normal form. The febrile period was diminished to six days. Finally, a mortality of 2.41 per cent. resulted.

What Cases of Obesity are Suitable for Thyroid Treatment?

—According to a writer in the *Gazette Hebdomadaire*, January 24, it is desirable to distinguish two classes of fat people. Those who are young, vigorous, and plethoric, and who are good livers, receive little or no benefit from thyroid treatment. Such cases are benefited by a dietetic regimen. On the other hand, fat persons that are pale, soft, and flabby, and inclined to edema, receive benefit from the ingestion of the thyroid gland. They lose weight rapidly, oxidation is increased, and nutrition improved. This "torpid" obesity, which has some points of analogy with this edema, is seen most frequently in women, while "florid" obesity occurs usually in men.

Enterocolysis in Gastro-Intestinal Disorders.—THIER-

CELIN (*Revue de Ther. Med. Chir.*, No. 23, p. 709), after a historical résumé, considers that flushing of the intestinal tract is advisable, and should be tried in every case, acute or chronic, of gastro-intestinal trouble, especially in children, as in this way the intestinal canal is freed of irritating, fermenting material, fermentative germs, and their toxic products, much better than by purgatives. When fever is present, one or two liters, at 25° C., can be injected very slowly several times a day. In the algid types, however, water, at 38° to 39° C., is used. The absorption of some of the water acts favorably upon the thirst, the hepatic and renal circulation, and the cardiac action. Boiled water, weak saline solution (seven grammes of sodium chlorid to the liter), weak boric-acid solution, alkaline, and lactic-acid solution, may be used, according to the case. The injections should not be continued longer than four or five days. They are contraindicated in cases of cardiac affection, in stricture of the intestine, and in ulceration, though some favorable reports of the use of a creolin solution in typhoid are on record.

Contraindications to Salicylates in Acute Articular Rheumatism.—

According to JACCOUD (*Semaine Médicale*, No. 54, p. 34), salicylate of soda is contraindicated in acute articular rheumatism with marked visceral complications. In such cases he uses the tartrate of antimony in large doses. Opium is incompatible, as it prevents the elimination of the drug by diminishing the emesis and diarrhea. Fever is permanently reduced by the third day, and no case of pericarditis has been observed. The author quotes from statistics the proportion of cardiac complications under salicylates as being from four to eight per cent.

Salicylate of Soda for Hemoptysis.—MAYS recommends,

in the *Journal de Médecine*, Paris, January 24, for the treatment of the profuse and persistent hemoptyses which sometimes occur in patients with rheumatic or gouty diathesis, salicylate of soda, which he has used with remarkable effect in such cases.

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SATURDAY, MARCH 20, 1897.

PATHOLOGY GONE MAD.

WE have had occasion to note from time to time that the persons devoting themselves to one particular line of work become so engrossed with their individual studies that their minds receive an indelible impression, which tinctures all they write and say; and particularly if they are studying pathology their point of view actually becomes pathological. We believe that no one will deny the assertion that the whole object of bacteriological, pathological, and other medical studies is the improvement of our knowledge in regard to the process of disease, in order that we may gain information as to the proper methods for the relief, or cure, of the malady before us. Certain it is that the patient, and the average physician, considers the treatment of his case far more important than the study of the pathological lesions underlying it. The one brings direct results, the other only indirectly helps the individual who is in difficulty.

Our attention has been called to this matter, first, by an exceedingly able and practical article by Sir Dyce Duckworth, in the *Liverpool Medico-Chirurgical Journal* for January, 1897, in which he points out the fact that, while pathological and bacteriological studies are of immense value, they are worth

nothing to practical medicine unless they point the way toward relief; and the antithesis of this is found in an extraordinary editorial in *The Journal of the American Medical Association* for March 6, 1897, entitled, "The Materia Medica Collection of the Smithsonian Institution." Evidently the writer is a pathologist, who has so lost sight of the ultimate reasons for his existence as to express views which are in direct opposition to every effort of the majority of the profession, and he is also guilty of the following sentence, which we have endeavored to parse, with poor results: "In this time of improved medical education, when laboratory, clinical, and dead-house teachings, with improved hygienes, tend daily to make the administration of drugs the approbrium of medicine, and much of the study of our own profession a mere meditation upon death." He then proceeds to quote Dr. Loomis of New York as having said: "Young men prescribe the drugs, but we old fellows don't believe in them."

The position of the physician who is optimistic in regard to the value of remedies in the treatment of disease is certainly that of the man who is striving after that which is desirable and good, but the position of one who is a therapeutic nihilist is equivalent to that of a man who, standing on the housetop, announces to the world that "There is no God." Therapeutics, or the treatment of disease, lacks certainly not because it is at fault itself, but because pathologists are unable to explain the process of disease. When the underlying factors producing disease are laid bare to us by the pathologist it is usually found that the therapist can devise a means for its relief or cure, and in many instances practical physicians have managed to relieve maladies, the causes and characteristics of which the pathologists have been unable to explain or discover.

THE MEDICAL TREATMENT COMPANY OF NEW YORK.

If a rest from his labors is what the doctor longs for, verily his millenium is at hand. Hospitals, clinics, and dispensaries have long since considerably lightened his labors, but it remained for a private company to put him completely at his ease by providing for patients too lazy or proud to go to dispensaries. The general practitioner has for some time been in doubt as to whether the public really needed him, but now all doubt has been cast aside, and he

can get a job in the woodyard of the Charity Organization Society or retire to the almshouse, from whose tranquil precincts he can watch the death-throes of legitimate medicine.

During the past month doctors about town have been asked to serve as district physicians for the above-mentioned company. Extracts from its prospectus are as follows:

"THE MEDICAL TREATMENT COMPANY.
INCORPORATED UNDER THE LAWS OF
THE STATE OF NEW YORK.

OFFICE: 19 PARK PLACE, NEW YORK CITY.

"For \$1 a month the Medical Treatment Company provides a doctor as often as you need one, who will treat you or your family at his office, or at your home, as the severity of the case requires, and has the prescriptions filled at the druggist's without extra cost to you. . . . The medical staff is composed of physicians who are graduates of the leading medical colleges of this state, and are in every way fully qualified by experience to treat any case of disease. . . . The birth of a child is a physiological condition, and therefore not classed under medical treatment. Under our system, upon payment of \$5, at the time of the birth, to the attending physician, the mother will receive proper attention during convalescence."

To the unthinking the workings of this company may appear somewhat revolutionary, but to one who has watched the signs of the times it seems only the legitimate outgrowth of the commercial spirit which has invaded and is likely to engulf medicine. That such a company may receive patronage enough to insure financial success is possible, and that it can hire regular physicians to do its work is probable. The extent to which the public will go for "bargains" has no limit and the willingness with which doctors will do contract work is well known. This scheme simply organizes the city of New York into a vast lodge for the purpose of getting medical service and medicines at rock-bottom rates. That the services and medicines obtained will probably be on a par with the price paid for them will undoubtedly be true, but that generally holds good for all "bargains" and does not render them less popular.

However unethical the whole procedure seems to us of the old school of ethics and practice, we see nothing illegal in it, and the profession stands in much the same position toward it as the small shopkeeper does to the big department store. The great possibilities of the movement are all that should startle us, as the same reprehensible practice has been carried on for twenty years by the Society of the New York Hos-

pital in its out-patient department. In fact "The Medical Treatment Company" is more worthy of respect as it pays its physicians a salary.

Surely the (downward) path of the doctor is being made easy and he may soon say with Solomon, Eccl. iii, 9, "What profit hath he that worketh in that wherein he laboreth?"

MUNICIPAL FREE BATHS IN NEW YORK.

PLAGUE and pestilence follow on the heels of famine for the reason that famine and destitution bring squalor and filth. *Pari passu* with the evolution of the germ theory of disease, the conviction has grown that the fundamental and universally applicable prophylaxis against all disease lies in hygienic habits and sanitary surroundings. Fresh air, and an abundance of it, and a generous supply of pure water are nature's great safeguards against disease. The one destroys disease and gives to the blood corpuscle the power to resist it, while the other washes it away beyond the possibility of doing harm.

It is with no slight degree of satisfaction, therefore, that we read the report which has just appeared of the committee on public baths and lavatories which was appointed two years ago by the mayor of New York. The committee has evidently given a vast amount of investigation and study to the subject; the report is replete with information and valuable suggestion.

The necessity for public baths was at once made apparent when the committee visited the tenements and lodging-houses to learn what bathing facilities were there afforded. Out of 480 houses visited in the slum districts, it was found that only 17 had bathrooms. Particularly inadequate provisions for bathing in the lodging-houses were noted, the patrons of many of which are, by reason of their bodily filth, a menace to the safety of the community. In 112 lodging-houses 15,233 persons are allowed to lodge by the authorities. Of these 112 houses 55 are without baths of any kind, and in these 55 houses 6372 lodgers are allowed. Fifty-seven houses have 95 baths, and the whole number of lodgers allowed in these houses is 8861. Fifty-six of the baths ostensibly have hot water. In 54 houses the baths are free, in 3 they are paid for. The average number of baths taken daily is 546. The replies of some of the patrons of the houses, when asked their opinion

of the bathing accommodations, were: "The tubs are never cleaned out, from the appearance of them;" "can't get a good wash without hot water;" "find too many old medicine-bottles for my taste;" "bad enough to sleep in a lodging-house, without using their baths." The committee also quotes from the report of the Gilder tenement-house committee the statement that, out of a population of 255,033 covered by the committee's inspection, only 306 persons had access to bath-rooms in the houses in which they lived.

It is interesting to know how similar conditions are met in the cities of the old world. The committee found that the city of Birmingham, with a population about the same as Boston, possesses four complete sets of well-appointed baths, and one open-air swimming bath. Two of the baths have a Turkish bath attached. In no case are the English or continental baths free, and the operating expenses are nearly met in almost every case by the fees. At Birmingham the fees are from one penny to sixpence, and a complete Turkish bath, including shampooing and the use of a private dressing-room, costs but one shilling. Liverpool is but little behind Birmingham. In "municipal" London over £500,000 is invested in public baths and laundry establishments, which cost £110,000 annually to maintain. Glasgow, not satisfied with providing public baths and laundries, has considered the project of gratuitously teaching everybody to swim.

At the present time the principal facilities afforded to the public of New York for bathing, by both the municipality and private philanthropy, consist of fifteen floating baths along the water front, which can be used of course only during the summer. How much these are appreciated and how well they are patronized is shown by the fact that from June 20 to October 10, 1896, they supplied accommodation to more than five million bathers.

The committee's idea of a public bath is an establishment under the control of the municipality where a hot or cold bath may be obtained at any time during the year. The plans propose a two-story bath-house containing eighty baths, of which forty-two will be for men, fifteen for boys, and twenty-three for women. Only fourteen of these will be tub baths, the rest being spray baths, mostly of the "ring" variety. The house will be divided into male and

female departments. The baths themselves are to be constructed of white-enamelled iron, marble, and unbreakable glass. Each bath will have two compartments—a dressing-room and a room for the bath itself. The floors throughout will be of solid masonry, no iron beams being used, the object being to prevent cracking. The flooring will be of white vitrified tiling. In the basement there will be a free lavatory containing water closets, etc. On the second floor will be a laundry. The German or "Gegenström" system is recommended for heating the water. The waiting-rooms and main bathing-halls will have an abundance of windows and skylights and light-reflecting surfaces. The exterior will be classic in style, and it is recommended that the material used be light in color. The baths, it is said, should readily accommodate 1,000,000 bathers a year, if kept open as required by law and properly administered.

It is recommended that six such bath-houses be constructed in the most desirable localities of the city on lots 100 x 50 feet. The style of bath approved is the spray or shower bath.

It only remains now to secure the appropriation of the necessary funds to put this health-giving, life-saving system into practical operation. The laws of 1896 authorized the Commissioner of Public Works, with the consent and approval of the Board of Estimate and Apportionment, to erect in the public parks so many structures for free public baths and public comforts as the Commissioner and board should deem necessary and proper, and sanctioned an appropriation of \$200,000. In accordance with this provision one bath-house, to contain sixty-nine baths, will be built in the new East Side Park, but it is hoped that the law may be so modified as to permit the erection of the other bath-houses in more suitable and convenient places.

ECHOES AND NEWS.

Does Small Lung Capacity Predispose to Consumption?—Dr. Edward Playter, of Ottawa, Can., desires to investigate this question, and asks the profession to send him data giving exact measurements of individual cases.

Diphtheria Regulations in Buffalo.—The Board of Health of Buffalo has issued a circular announcing the fact that it is prepared to make bacteriological examinations of cultures from all suspicious throats, and for the convenience of the profession has placed culture tubes at all the police stations throughout the city.

Anesthetics and the Laity.—Governor Black of New York has signed the bill making it a felony for a person other than a duly licensed physician to have an anesthetic on his person with the intention of administering the same to another person, and makes the finding of the same on the person by any one presumptive evidence of guilt.

Anti-cigarette Bill.—The New York Assembly committee on public health has reported favorably a bill prohibiting the sale of cigarettes to minors, and providing that dealers in cigarettes shall pay a license fee. The bill is amended by making it a violation to sell within 250 feet of a church or school. The bill fixes the license fee at \$50.00.

Epilepsy Mistaken for Hydrophobia.—At a recent meeting of the Paris Academy of Medicine, M. Megnin pointed out that current statistics regarding hydrophobia were entirely misleading, as many dogs were declared mad when they simply had epileptic fits. He added that dogs, like human beings, seemed to be more inclined to nervous diseases than formerly.

Ordinance Against Cocain.—It is reported that the victims of the cocain habit have become so numerous in Chicago that an ordinance has been introduced prohibiting the sale of remedies for catarrh and other diseases, which contain cocain. In the last two months over forty victims of the drug have appeared in police courts and elsewhere. Several of them have been well-known men and women, who say they were brought to their present condition by using catarrh cures.

New Quarantine Hospitals at New York.—The Quarantine Commissioners have had plans prepared for the improvement of Swinburne Island, and have asked the Legislature for \$300,000 with which to put up a permanent hospital plant. The plans that have been prepared and submitted to the Legislature are based upon the latest improvements in hospital building. They call for the erection of fifteen fireproof buildings made of terra cotta and steel. If the plans are carried out, together with proposed improvements on Hoffman Island, New York will have the finest quarantine station in the world.

The Methods of Quacks.—The *Sanitarian* quotes *The Christian Advocate* as saying: "One of the most amusing, and the same time said things, is to see certificates published in religious papers and others, signed by men certifying that they have been cured of disease by a contrivance or a medicine which is an infallible cure for the maladies spoken of, when to our certain knowledge the signers of the said certificates died subsequently of the same disease. We have noticed fifteen cases of as many different remedies, which in corroboration of this statement we could publish were it not for the grief it would give the bereaved, and were we to publish them without the names, the vendors would deny the facts."

The Spitting Ordinance Enforced.—For the first time in New York city a man was arrested, March 9th, and punished for making a beast of himself by spitting all over

the floor of a public vehicle. It is not a great many years since it was generally believed that spitting in public was one of the rights of a free people, and not a disgusting habit fraught with danger to the public health. On account of the difficulty experienced in enforcing the order of the Health Department of St. Louis, Mo., against spitting on the floors of cars, it has been suggested that a few cars be run over the lines with the placard "spitting cars" attached. The *Sanitarian* remarks that "this innovation would certainly arrest the attention of the human hog and perhaps work his cure."

Connecticut Vital Statistics.—The annual report of the Connecticut State Board of Health for 1896, just presented, gives the vital statistics of the State for 1895. For the ten years ending with and including 1895 it shows a decrease from 1364 to 1358 in the annual number of deaths from consumption, notwithstanding the increase of about 130,000 in the population of the State during that time. Heart disease during the same time rose from 689 to 1016 a year, pneumonia from 827 to 1289, Bright's disease from 344 to 605, and bronchitis from 197 to 539. Deaths from insanity have increased during that period about 60 per cent. Typhoid fever shows the slight annual increase during these years from 244 to 259. Thirty years ago the deaths from that disease were 332, and as far back as 1855 they were 273. The decrease, in spite of defective returns during the earlier period and the large increase of population since, indicates the effectiveness of the measures to check the spread of the disease. The report strongly approves the use of antitoxin in diphtheria, recommends that a public supply of it be free, and commends bacteriological examinations in the same disease.

Obituary.—Dr. Ernest F. Hofmann, of 45 West Twenty-fifth street, New York, died March 11, 1897, after a four weeks' illness. He was born in Coburg, Germany, in 1832, and came to this country when twenty years old. After studying under various doctors in this city, he graduated from the New York University in 1858. For six years his home was in Poughkeepsie. During the war he served for some months in the Sixth Army Corps, subsequently returning to Poughkeepsie, where he had married Miss Laura Skeel, a painter and sculptor. He came to this city in 1867 to occupy a chair in the Medical College for Women, which he resigned after a year.—Dr. George A. Sterling, for many years a leading physician of Long Island, died in Oakland, Cal., March 8th. He was a native of Sharon, Conn., and a graduate of Bellevue Hospital Medical College. He settled in Sag Harbor, L. I., where he became a successful practitioner. He also had a large practice among the wealthy summer residents of the Hamptons. Failing health interrupted his career, two years ago. Last November he left for San Francisco, intending to go to the Sandwich Islands and establish a coffee plantation, and, if possible, regain his health. When he reached San Francisco he was too ill to proceed. Death was due to stomach disorder. He was about fifty-five years old.

Bones Fractured by Muscular Action.—Dr. C. J. Edgar, in the *Montreal Medical Journal*, reports an interesting

and unusual case of fracture of the scapula by muscular action alone. A man aged about forty-five, tall, spare but muscular, was driving a heavily laden team down a somewhat steep incline and walking beside the load, when part of the harness broke, and, to prevent the wagon running upon the horses, he caught hold of one wheel by the spokes with both hands. The impetus, however, was too great, and he was gradually forced over and down upon one knee. As his knee touched the ground, he felt something give way in his left shoulder and lost his hold. On rising to his feet he found the arm powerless and very painful, the pain being referred to the shoulder joint, which he thought to be dislocated. On manipulation of the scapula, it was found that the entire inferior angle was torn away and separated from the rest of the bone by half- or three-quarters of an inch. Firm union was secure in seven weeks, leaving, however, a very marked ridge of callus over the seat of fracture. Motion was perfect, and the arm regained all its former usefulness. A case has been recently reported from San Francisco in which the pitcher of a baseball club fractured his humerus in three places, by the effort he put forth in throwing a line ball from third to first base. And within ten days thereafter another similar case occurred at the same place, the fluoroscope showing a double fracture of the bone.

ANNOUNCEMENTS.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

THE preliminary program for the Fourth Session, to be held in Washington, D.C., May 4, 5, and 6, 1897.

President, William H. Welch, M.D., LL.D., Baltimore, Md.

Vice-presidents, *ex-officio*: President of the American Otolological Society, Dr. Arthur Mathewson, Brooklyn, N. Y.; President of the American Neurological Association, Dr. M. Allen Starr, New York City; President of the American Gynecological Society, Dr. James R. Chadwick, Boston, Mass.; President of the American Dermatological Association, Dr. James C. White, Boston, Mass.; President of the American Laryngological Association, Dr. Charles H. Knight, New York City; President of the American Climatological Association, Dr. E. Fletcher Ingals, Chicago, Ill.; President of the Association of American Physicians, Dr. J. M. DaCosta, Philadelphia, Pa.; President of the American Association of Genito-Urinary Surgeons, Dr. Francis S. Watson, Boston, Mass.; President of the American Orthopedic Association, Dr. Samuel Ketch, New York City; President of the American Physiological Society, Dr. Russell H. Chittenden, New Haven, Conn.; President of the Association of American Anatomists, Dr. Frank Baker, Washington, D.C.; President of the American Pediatric Society, Dr. Samuel S. Adams, Washington, D.C.; President of the American Surgical Association, Dr. John Collins Warren, Boston, Mass.; President of the American Ophthalmological Society, Dr. George C. Harlan, Philadelphia, Pa.

Chairman of the Executive Committee, Landon Carter Gray, M.D., New York City.

Secretary, William H. Carmalt, M.D., New Haven, Conn.

Treasurer, Newton M. Shaffer, M.D., New York City.

PROGRAM:

The meetings of the Congress will all be held in the Columbia Theater, corner of Twelfth and F streets, N. W.

TUESDAY—MAY 4TH.

A business meeting of the Congress will be held from 1.30 to 2 P.M.

From 2 to 3.30, a general meeting of the Congress, under the direction of the American Ophthalmological Society.

Subject: "The Gouty and Rheumatic Diatheses, and their Relation to Diseases of the Eye." Papers will be read by Dr. Charles Stedman Bull of New York City; Dr. S. Oliver Richey of Washington, D. C.; Dr. S. D. Risley of Philadelphia, Pa.; Dr. Robert Satler of Cincinnati, Ohio; and Dr. R. A. Reeves of Toronto, Canada; to be followed by a discussion, in which Dr. J. M. DaCosta of Philadelphia, Pa., and Dr. Henry M. Lyman of Chicago, Ill., members of the Association of American Physicians, and others, will participate.

From 3.30 to 5 P.M., a general meeting under the direction of the American Otolological Society.

Subject: "Otology in its Relations to General Medicine." A paper by Dr. Clarence J. Blake of Boston, Mass.

WEDNESDAY—MAY 5TH.

From 2 to 5 P.M., general meeting of the Congress, under the joint participation of the Association of American Physicians, the American Physiological Society, and the American Pediatric Society.

Subject: "Internal Secretions Considered in Their Physiological, Pathological, and Clinical Aspects." Dr. William H. Howell of Baltimore, Md., and Dr. Russell H. Chittenden of New Haven, Conn., will speak in behalf of the American Physiological Society; Dr. J. George Adami of Montreal, Canada; Dr. James J. Putnam of Boston, Mass., and Dr. Francis P. Kinnicutt of New York City, in behalf of the Association of American Physicians, and Dr. William Osler of Baltimore, M.D., in behalf of the American Pediatric Society. The papers will be followed by a discussion.

WEDNESDAY, MAY 5TH.—EVENING MEETING.

8.15 P.M., address by the President of the Congress, Dr. William H. Welch, Professor of Pathology in the Johns Hopkins University, Baltimore, Md., to be followed by a reception by the President, at Rauscher's, corner of Connecticut avenue and L. street.

THURSDAY—MAY 6TH.

From 2 to 3.30 P.M., general meeting of the Congress, under the direction of the American Orthopedic Association.

Subject: "Deformities of the Hip-Joint, Especially Congenital Dislocations." A paper will be read by Dr. E.

H. Bradford of Boston, Mass., to be followed by a discussion by Dr. V. P. Gibney of New York City and Dr. Harry M. Sherman of San Francisco, Cal.

From 3.30 to 5 P.M., general meeting of the Congress under the direction of the American Surgical Association.

Subject: "The Classification of Acute General Peritonitis; the Prognosis and Treatment of the Different Varieties." Dr. William S. Halsted of Baltimore, Md., will read a paper on the classification, and Dr. Robert Abbe of New York City, on the prognosis and treatment of the different varieties. A discussion will follow, participated in by Dr. John Homans of Boston, Mass., Dr. A. Van der Veer of Albany, N. Y., Dr. Henry H. Mudd of St. Louis, Mo., Dr. Frederick Lange, and Dr. Arpad G. Gerster of New York City.

AMERICAN PEDIATRIC SOCIETY.

THE Ninth Annual Meeting, to be held at Washington, May 4, 5, and 6, 1897.

PRELIMINARY PROGRAM:

1. "The President's Annual Address." Samuel S. Adams, M.D.
2. "A Case of Tic Convulsif." J. C. Wilson, M.D.
3. "A Brief Analysis of 100 Cases of Frank Pneumonia." F. Gordon Morrill, M.D.
4. "A Case of Acetanilid Poisoning in a Newly-born Infant." Irving M. Snow, M.D.
5. "Antitoxin and Intubation in the Treatment of Diphtheritic Croup." J. Lewis Smith, M.D.
6. "Synopsis of Fifty-eight cases of Empyema Operated Upon During 1896, in the Children's Service of Mount Sinai Hospital." B. Scharlau, M.D.
7. "Adherent Pericardium in Children." Wm. Osler, M.D.
8. "Lithemia in Children." B. K. Rachford, M.D.
9. "A Case of Diphtheria of the Eye." T. M. Rotch, M.D.
10. "An Unusual Case of Erythema Multiforme." Floyd M. Crandall, M.D.
11. "A Case of Edema in Infancy." J. P. Crozer Griffith, M.D.
12. "Multiple Purulent Arthritis with Gonococcal Vaginitis." L. Emmett Holt, M.D.
13. "Retained Intubation Tubes; Causes and Treatment." Joseph O'Dwyer, M.D.
14. "Hereditary Tendency in Pediatric Practice." Floyd M. Crandall, M.D.
15. "Retro-pharyngeal Abscess." J. P. Crozer Griffith, M.D.
16. "Abrasion of the Umbilical Wound." Irving M. Snow, M.D.
17. "Murmurs and Heart Lesions in Infancy." William P. Northrup, M.D.
18. "A Frequent Significance of Epistaxis in Children." J. Henry Fruitnight, M.D.
19. Report of the Committee on the Collective Investigation of Antitoxin Treatment of Pharyngeal Diphtheria in Private Practice.

20. "A Case of Suppurative Nephritis." Rowland G. Freeman, M.D.

21. "Varicella Gangrenosa; a Case." W. F. Lockwood, M.D.

A session is to be devoted to the demonstration of apparatus and pathological specimens. It is requested that announcements of such subjects be forwarded as early as possible. In order to group papers on kindred subjects in the same session, the titles of further papers are also requested at an early date.

Samuel S. Adams, M.D.,

President.

William P. Northrup, M.D.,

Chairman of Council,

57 East Seventy-ninth street, New York.

AMERICAN MEDICAL ASSOCIATION.

THE Forty-eighth¹ Annual Session (fifteenth anniversary) will be held in Philadelphia, Pa., on Tuesday, Wednesday, Thursday, and Friday, June 1, 2, 3, and 4, commencing on Tuesday at 10 A.M.

ADDRESSES.

"The Presidential Address," Nicholas Senn, M.D., Chicago. "Address in Surgery," Wm. W. Keen, M.D., Philadelphia. "Address in Medicine," Austin Flint, M.D., New York. "Address in State Medicine," John B. Hamilton, M.D., Chicago.

COMMITTEE OF ARRANGEMENTS.

H. A. Hare, M.D., 222 South Fifteenth street, Philadelphia.

OFFICERS OF SECTIONS.

Practice of Medicine.—J. H. Musser, M.D., Philadelphia, Chairman; J. T. Priestly, M.D., Des Moines, Iowa, Secretary.

Obstetrics and Diseases of Women.—Milo B. Ward, M.D., Topeka, Kan., Chairman; Geo. H. Noble, M.D., Atlanta, Ga., Secretary.

Surgery and Anatomy.—Reginald H. Sayre, M.D., New York, Chairman; Bayard Holmes, M.D., Chicago, Secretary.

State Medicine.—Elmer Lee, M.D., Chicago, Chairman; Louis Faugères Bishop, M.D., New York, Secretary.

Ophthalmology.—G. E. de Schweinitz, Philadelphia, Chairman; H. M. Starkey, M.D., Chicago, Secretary.

Diseases of Children.—Jas. A. Larrabee, M.D., Louisville, Ky., Chairman; H. E. Tulley, M.D., Louisville, Ky., Secretary.

Dental and Oral Surgery.—R. R. Andrews, M.D., Cambridge, Mass., Chairman; Eugene S. Talbot, M.D., Chicago, Secretary.

Neurology and Medical Jurisprudence.—W. J. Herdman, M.D., Ann Arbor, Mich., Chairman; Chas. H. Hughes, M.D., St. Louis, Mo., Secretary.

Dermatology and Syphilography.—A. Ravogli, M.D., Cincinnati, Ohio, Chairman; T. C. Gilchrist, M.D., Baltimore, Md., Secretary.

¹ There were no meetings held by the Association during the years 1861 and 1862.

Laryngology and Otolaryngology.—Wm. E. Casselberry, M.D., Chicago, Chairman; D. Braden Kyle, M.D., Philadelphia, Secretary.

Materia Medica, Pharmacy, and Therapeutics.—W. B. Hill, M.D., Milwaukee, Wis., Chairman; F. Woodbury, M.D., Philadelphia, Secretary.

Physiology and Dietetics.—A. P. Clarke, M.D., Cambridge, Mass., Chairman; Ephraim Cutter, M.D., New York, Secretary.

Wm. B. Atkinson, M.D.,
Permanent Secretary.

THE TWELFTH INTERNATIONAL MEDICAL CONGRESS.

Will be held at Moscow, Russia, August 19-26, 1897.

J. Klein, M.D., President.

W. K. Roth, M.D., Secretary-General.

AMERICAN NATIONAL COMMITTEE.

J. S. Billings, M.D., New York; Frank P. Foster, M.D., New York; Claudius H. Mastin, M.D., Mobile; S. Weir Mitchell, M.D., Philadelphia; Charles A. L. Reed, Cincinnati; George B. Shattuck, M.D., Boston; F. J. Shepherd, M.D., Montreal; George F. Shrady, M.D., New York; W. S. Thayer, M.D., Baltimore.

A. Jacobi, M.D., 110 West Thirty-fourth street, New York, Chairman.

NEW YORK, March 10, 1897.

In a letter dated Moscow, February 14, the Secretary-General, Professor W. K. Roth, communicates the following facts for the information of the American physicians who intend to participate in the Twelfth International Congress, which is to be held in Moscow from August 19th to 26th.

The transatlantic steamship companies refuse one and all any reduction of the usual charges. In their replies, most of which are couched in courteous language (the originals are in the possession of the undersigned), they admit the existence of a trust, or contract, or agreement, which prevents them from lowering their prices; a few are so polite as to express their regrets.

Reductions of fares on Russian railroads are expected shortly. The French, Spanish, Swedish, and Hungarian railroads promise a reduction of fifty per cent.; so do the Italian, for a distance of 500 kilometers; less (down to thirty per cent.) for shorter distances. The Mediterranean lines (Messageries Maritimes, General Italian Navigation Company, Austrian Lloyd) grant from twenty-five to fifty per cent.

The undersigned Chairman is not authorized to issue certificates of any kind in favor of congressists. He will try to ascertain, however, in which way their movements may be facilitated, and may receive a reply in the second half of April. Extracts of papers to be read before any of the sections ought to reach the Secretary-General before June 1st, in order to be printed in the preliminary volume.

A special prospectus containing the final details referring to traveling, lodging, festivities, etc., is promised

for a near future. It will be communicated at once to the medical journals and to the press of the country.

A. JACOBI.

CORRESPONDENCE.

TREATMENT OF DIPHTHERIA WITH ANTITOXIN AT THE NEW YORK FOUNDLING ASYLUM.

To the Editor of the MEDICAL NEWS.

DEAR SIR: In the MEDICAL NEWS of March 6th Prof. J. Lewis Smith states that the injurious and negative results of the antitoxin treatment in the New York Foundling Asylum were due to the fact that the serum used was prepared by a French company.

In the last edition of Prof. Smith's valuable text book (page 379) will be found the following statement: "We cannot write so favorably of the use of antitoxic serum in the New York Foundling Asylum. Since a reliable preparation was obtained from the Health Board thirty-one cases were inoculated with the serum. . . . The antitoxin was inserted under the skin on the first day in twelve cases, on the second or third day in seventeen cases, and on the fourth or fifth day in two cases, etc. Results: Recovered, fourteen; died, seventeen; 54.89 per cent. mortality."

The mortality in the Foundling Asylum with the French serum was 45.7 per cent.; with the Health Board serum, 54.89 per cent. These statements from the pen of Prof. Smith show that the unfortunate results of the antitoxin treatment in the New York Foundling Asylum are not due to the employment of an inferior serum. These results do demonstrate, however, that antitoxin is completely useless when used in any severe form of diphtheria. Seventeen deaths in thirty-one cases of diphtheria, that were brought under antitoxin treatment early in the disease, are sufficient evidence of the impotence of this agent in severe diphtheria. On the other hand, sixty-five cases, with only three deaths, is but a repetition of what had happened with other methods of treatment. As good results have been published of numerous other treatments, even bad treatment.

Guttman treated eighty-one cases of diphtheria with pilocarpin, all recovered (*Medical Record*, September 14, 1895). F. Lueddeckens treated eighty-one cases with cyanid of mercury, one death (*Therap. Monats*, 1896, No. 11).

The French serum, which produces such low mortality in Paris, gives in the New York Foundling Asylum 45.7 per cent., and Board of Health serum gives in one series of cases in the New York Foundling Asylum a mortality of 4.6 per cent., and in another series, 54.89 per cent. These wide divergencies in the death-rate admit of but one explanation, namely, the difference in the character of the cases experimented on. In corroboration and substantiation of this explanation, I will cite the variations of mortality in the New York Foundling Asylum before the antitoxin treatment: In 1891 the mortality in this institution was 52.2 per cent.; in 1894, twenty-four per cent. The difference in the mortality in 1891 and 1894

is not due to the treatment; neither is the difference in the mortality in 1895 and 1896 due to the difference in the serum used; but it is the same influence operating in these different years; that is, at one time a high grade, at another time a low grade, of the severity of the disease.

Dr. S. C. Blaisdell of Brooklyn, in a letter to me, states: "I am not using antitoxin at present. My experience with it has been limited to thirty-one cases. I have yet to see a case, either mild or severe, that has been benefited by antitoxin. I am quite certain that it in one case hastened the death of a child where I used it. The temperature of the child (four years old) was before using antitoxin $99\frac{3}{8}^{\circ}$; in twenty minutes after the injection of 2000 units the temperature rose to 106° . The antitoxin was administered at 11 A.M., child died at 2'clock the next morning. On my own responsibility I will never use antitoxin unless insisted upon by the parents or friends of the patient, they assuming the risk of the result. With antitoxin my death-rate has been thirty per cent., without it about fourteen per cent."

Dr. Wm. L. Johnson of Oxbridge, Mass., writes (*Atlantic Medical Weekly*, February 27, 1897, p. 137): "Could it but really be known how many of the fatal cases that the antitoxin users report were due not to the disease, but to the remedy used, the result would be startling. I have also the notes of thirty cases of diphtheria in private practice, treated with antitoxin and collected from various sources undoubtedly reliable, with the frightful mortality of twenty-three, or nearly eighty per cent."

Professor Smith states that the significance of the term "change of type" of contagious diseases is entirely changed since the discovery of the microbic origin of these diseases, and that the whole subject of "change of type" of contagious diseases should be reinvestigated from the standpoint of modern bacteriology. If the Klebs-Loeffler bacillus is the cause of diphtheria now, it was the cause of this disease a century ago, and the "change of type," so well known in the days of Bretonneau and Trousseau, exists to-day, and has not been changed by the discovery of this bacillus under the microscope. "Change of type" is to-day as it ever has been, inscrutable—even to the bacteriologists. In Trousseau's writings (Vol. II., New Sydenham Society) we find a statement that Bretonneau did not see a single fatal case of scarlatina from 1799 to 1822. In 1824 Trousseau saw with Bretonneau a case of scarlatina which terminated fatally in eleven hours from the onset of the first symptoms. Trousseau adds: "Thus you see that during a quarter of a century scarlatina appeared as an epidemic without showing any severity; then all at once it became changed in its manifestations, and cruelly smote all whom it touched."

JOSEPH E. WINTERS, M.D.

25 WEST THIRTY-SEVENTH STREET,
NEW YORK, March 15, 1897.

Medical Inspectors of Schools.—The New York Health Board has appointed 134 Medical Inspectors of School Children at salaries of \$30 a month. Dr. A. Blauvelt, formerly Assistant Chief of the Bureau of Contagious Diseases, was made Chief Medical Inspector, at a yearly salary of \$2500.

OUR PARIS LETTER.

[From our Special Correspondent.]

MAX NORDAU'S LECTURES — HYPNOTISM NOW A NEGLECTED PRACTICE IN FRANCE — PFEIFFER'S BACILLUS OF INFLUENZA FOUND IN CONNECTION WITH BRONCHOPNEUMONIA—THE CONSUMPTION OF HORSE-MEAT BY THE POOR.

PARIS, February 17, 1897.

DR. MAX NORDAU, whose permanent residence is now in Paris, where I believe he practises his profession, lectures occasionally at the Institut Psycho-Physiologique de Paris in the rue St. André des Arts, not far from l'Ecole de Médecine. The Institut Psycho-Physiologique is the only place in Paris where regular *stances* in hypnotism are now held, and to the American student familiar with "Trilby" there is an eminent suitability in the fact that it should be almost on the site where that heroine is supposed to have had her *blanchisserie de fin* in the rue St. Anatole des Arts in the book, that experiments in hypnotic suggestion should still be carried on. But for the ordinary Frenchman that means nothing, for "Trilby" and her history seem absolutely unknown here. Even if you ask for Du Maurier's book at the Bibliothèque Nationale they will bring you Charles Nodier's "Trilby," written in the early part of the century, and can tell you nothing of the other. One is surprised to find, however, that Nordau is not much better known among the French. His lectures attract very little attention and most of his auditors are English and Americans, not always medical students, though the lectures are meant especially for students and are freely open to them.

Some data that may serve as criteria in the judgment of his writings can be gathered from an informal lecture of this kind. He spoke last Thursday on "Psychoses of the Menopause." Nothing new was said, but there was always present that tendency to say half-truths that are paradoxical in an exaggerated form, so as to produce an effect. For Nordau, for instance, there is at the root of all ambition in the male of whatever kind, political, social, or practical, the desire to find favor in the eyes of the female; i. e., a female, some female, though may be unconsciously even to its possessor. Naturally, with as exaggerated an idea of the influence of sexuality as this, the etiology of the psychoses of the menopause and of mental troubles incident to other sexual periods in life becomes merely the consequence of the psychic forces in evolution or involution at these times in the organism. These psychic forces will have serious consequences only on the mental condition of those whose physical organization is not strong enough to stand the strain; in a word, only in the degenerate. Curiously enough, however, while it is his writing on degeneration that has made him famous, Dr. Nordau did not once use the word "degenerate" in his lecture. It is the word that has been consecrated to the description of the groundwork of some of the states which Nordau was describing (by the well-known work of Magnan and his pupils), but he seemed to deliberately avoid the use of it. Perhaps for him degeneration is reserved for that universal downward tendency he has noted in mankind in general, and not the

accidental occurrence of beings whose heredity and environment has placed them on a plane below others.

Notwithstanding the seeming pessimistic tendencies of his books, Nordau himself is a very benevolent-looking individual, whose perfectly white whiskers, bald head, and paternal expression, recall the appearance rather of some good old clergyman than of the startling, somewhat anarchistic, innovator in matters of psychological development. He is very much interested in the United States (what foreigner is not who has books to sell!) and recalls with evident pleasure his visit to us during the Chicago Exposition.

I said that the Institut Psycho-Physiologique was the only place in Paris where regular *séances* in hypnotism were given. It is, too, the only place where hypnotic suggestion is put forward as a therapeutic measure of any importance in general practice. The general character of the experiences there are not, I think, calculated to encourage the medical man who may have come to Paris with the idea that the development of hypnotism here in France had placed it on a tangible basis of scientific principles, and had made practical its general medical application. For some time, as Professor Giles de la Tourette, the well-known writer on hysteria, said in a lesson at the Salpêtrière not long ago, hypnotism has ceased to occupy serious attention here. It has, in the words of an illustrious compatriot, been allowed to sink into innocuous desuetude. If the dangers, to which patients are exposed by the practice of it, are as serious as Flechsig in his recent inaugural address has made them out to be, it is well that it is so.

A few years ago all the nervous and mental specialists were completely taken up with it. Luys at the Charité, and even the great Charcot at the Salpêtrière, were making special studies of it and giving clinical demonstrations of its states and phases, and of its wonderful therapeutic effects. Charcot's work was well done, and some of it remains as the best studies in the subject that we have, but he realized after awhile how fallible and nugatory were scientific conclusions founded on morbid states so protean, so scantily understood, and so little reliable, as those in which the higher stages of hypnotism could alone be developed. He withdrew from the study of it and interest in it faded. Bernheim, at Nancy, is still making exaggerated claims as to its general applicability, and as to the marvellous therapeutic and moral effects of hypnotic suggestion, but these claims are very generally laughed at in Paris. In very suggestible subjects suffering from the severer forms of hysteria it is occasionally used, but one sees suggestion in the waking state more frequently applied.

For the third time within a century, each time in a more alluring form, the subject of the influence of will-power over the wills of others has excited the lively interest of medical men. Each time the subject has sunk back again, not into oblivion, but into a phase of almost complete neglect. Each time something has been gained, but the exaggerated claims of too ardent devotees of the subject have reflected on the study itself and have made its pursuit savor too much of charlatanism. Probably the calmer scientific spirit of conscientious inquiry which will,

it is to be hoped, characterize the twentieth century, may enable the next generation (for surely interest in the alluring subject will at some time be aroused for them too) to approach the subject in a more judicial and scientifically disinterested spirit than has been done so far. Meantime expectant students of hypnotism who come to Paris are apt to be seriously disappointed.

A recent report of Dr. Henri Meunier to the Society of Biology seems to show Pfeiffer's bacillus, the influenza microbe, in a new rôle, and under circumstances that make its further study very interesting. Dr. Meunier has found it in ten cases of bronchopneumonia in children, in four of which there did not seem to be any connection with *la grippe* in its epidemic form. He thinks that in these cases Pfeiffer's bacillus was the only etiological factor in all of them at the beginning, and in most of them (as pulmonary puncture and repeated blood examinations did not show the presence of other micro-organisms) during the whole course of the disease. The clinical evolution of the disease was that of the ordinary bronchopneumonia, with the exception, perhaps, of even greater depression than usual, and a temperature that was especially rebellious to the action of cold baths.

One wonders if it is not by these cases in children that the disease has been retained as an endemic disease since the great epidemic of 1889. The children, more susceptible because possessed of less vital resistive power, form, it has been suggested, suitable culture media for the attenuated forms of the bacilli. The micro-organism is thus preserved from year to year, and, during specially damp seasons such as this one has been, climatic influences perhaps increase its virulence, the prevalence of bronchial affections give it suitable niduses for growth, and an epidemic such as we have had at Paris once more this year, breaks out. If, as Professor Guiteras thinks, it is this condition of affairs that makes yellow fever endemic in Cuba; why not *grippe* in the various centers in which it has practically been endemic since its first spread?

The pneumococcus has come to be considered the active pyogenic agent in the purulent lesions secondary to pneumonia, and now comes a report of a case in which it seems to have been primarily and locally pyogenic, without having induced the usual constitutional symptoms.

The case recently reported to the Society of Biology was one in which an open wound had come in contact with some pneumonic sputum. The result was a lymphangitis and purulent infiltration of the neighborhood of the wound. In the pus no other micro-organism but the pneumococcus could be found. This would seem to indicate a hitherto unrealized danger, perhaps, and the necessity of special precautions in surgical and puerperal cases in general practice when pneumonias are being treated.

Occasionally in the outlying districts of Paris one runs across the sign, "*Boucherie Hippophagique*,"—horse-meat butcher shop. Quite a little horse meat is sold in Paris, though, according to law, it must be distinctly sold as such. Where wages are as low as they are here, and beef as dear (wages are certainly not more than half ours, and beef at least twice as expensive), it is not surprising to find that the poorer classes are ready to take

advantage of the chance to get meat cheaply. The meat is darker, less inviting, and when served up usually tougher than beef, but has much the same flavor, and is said to be even more nutritious, weight for weight, than beef. The traffic is regulated very carefully here, instead of being ignored. There has been a growing suspicion for some time in America that horseflesh was being offered as an article of food in various specious forms, such as canned goods and sausages. Owing to prejudice this must be done surreptitiously, and hygiene suffers as a consequence. The more frank, open Parisian method, strikes one as being more commendable.

TRANSACTIONS OF FOREIGN SOCIETIES.

Berlin.

THE NATURE OF OSTEOMALACIA AND ITS TREATMENT WITH OVARIAN EXTRACT—PRESENT POSITION OF INTRAUTERINE MECHANICAL TREATMENT.

SENATOR read a paper on osteomalacia and its treatment with animal extracts before the Berlin Medical Society, January 13th. This is a disease whose etiology is not well understood. It does not appear to be due to a lack of lime salts in the food, as even the poorest diet contains an excess of these salts. Still, certain observers have been able, artificially, to produce osteomalacia in animals by withholding lime salts from their food.

Another theory presupposes a diminished alkalinity of the blood as a result of which the lime salts are dissolved out of the bone, while it is impossible for new salts to be deposited. Experiments along this line in animals have given no definite results.

FEHLING has recently advanced the idea that osteomalacia is due to adverse reflex influences proceeding from the ovaries, and especially affecting the metabolism of the bones. This influence he compares to the influence of the thyroid gland upon the metabolic processes of the body, in certain cases of goiter due to a faulty function of the thyroid. There is doubtless some relation between the ovaries or testicles and the bony system.

With this point in mind, Senator treated with ovarian extract (oophorin) a woman, aged forty-two, who had suffered for ten years with weakness and pains throughout the body severe enough to prevent walking. The bones, and especially the symphysis pubis, presented well-marked deformities. For six weeks the patient received thyroid extract, and after a period of a week, during which time no medication was administered, she was given ovarian extract for eleven days. She lost six pounds during the thyroid treatment, and regained three pounds in the interval, and during the ovarian treatment she lost two pounds. In spite of this fact she improved in feelings and in gait during these periods. Senator attributed this improvement to the medication. Oophorin is easily taken, and does not cause, as does thyroidin, palpitation of the heart, slowing of the pulse, albuminuria, etc., so that he feels justified in recommending its further use.

In the discussion of this paper LANDAU spoke of the success in the treatment of osteomalacia which had followed castration. That a disease should be easily influ-

enced in some cases by the removal of an organ, and in others by the ingestion of its extract, is not at all impossible. In fact, this has been illustrated in the treatment of goiter with thyroid extracts, a subject which a few years ago was as little understood as treatment with ovarian extract is to-day. The benefit of its use in nervous troubles of the climacteric and after castration has been established in numerous instances. The dose should be at least from fifteen to twenty-five grains of the dried material three times daily. It is important to select the ovaries of animals which are neither very young or very old.

VIRCHOW spoke of the different forms of osteomalacia, so different, in fact, that it is doubtful whether they ought to be included under one heading. There is the "red malacia," the "yellow malacia," and a "gelatinous malacia." The first is an irritative process allied to inflammation. The second usually occurs in old people, and is the cause of the brittleness of the ribs which is often met with. It may often affect the extremities. These two forms, of course, have nothing in common. The "gelatinous" form is of especial interest because a peculiar albuminous substance, which exists in these cases in the bones, has been shown by Bence-Jones to exist in the urine. This albuminate is not found in normal bone nor in the bones of those suffering from "red" or from "yellow" malacia. Attention has been called to the removal of the lime salts from the bone, and many experiments have been made to determine what special acid was responsible for this decalcification. This supposition is entirely unnecessary. The carbonic acid of the blood is of itself quite sufficient to remove the lime salts, if once the power of the bones to cause their deposition is taken away or lessened. The primary cause of osteomalacia is probably a neurotic one by which this power of the bones to fix the lime salts is weakened. However, it would be going too far to say that this is the cause in all cases of this disease.

At the session of February 3d, SIMONS said that intrauterine mechanical treatment had been too hastily and unjustly condemned. Treatment with a sound is of service in (1) cases of delayed development; (2) cases of atrophy; (3) cases in which an angular anteversion exists. Chlorotic girls, for instance, in whom the ovaries are well-developed, or over-developed, while the uterus remains aplastic, suffer from dysmenorrhea and amenorrhea on account of this lack of proportion between uterus and ovaries. If a sound is passed and external massage is lightly made upon the fundus three or four times during the week preceding menstruation, the pain can be greatly diminished. Another benefit from intrauterine treatment occurs in married women with long cervixes and sharply anteverted corpora. This is a frequent cause of dysmenorrhea which continues throughout the menstrual period. In Simons' experience in these cases the use of intrauterine pessaries quickly and completely straightened the canal of the organ. For the accompanying sterility the cervix should be incised bilaterally and posteriorly some weeks before the introduction of the pessary.

LANDAU took exception to these opinions of Simons, claiming that the increase in thickness of an aplastic uter-

us which followed the measures indicated was due not to a normal stimulation of the organ, but to an inflammatory reaction brought about by the foreign bodies. The introduction of these into the uterus is capable of setting up salpingitis, or pyosalpinx, or abscesses, and may cost the life of the patient.

CZEMPIN said that the inflammation of one sort and another which followed intrauterine mechanical treatment before antiseptics were known does not follow such treatment now if proper precautions are employed. In his opinion, the use of an intrauterine pessary is not only safe but beneficial in such cases of faulty development as Simons referred to. Such cases are not cured by curetting, while they may be cured by the methodical treatment by sounds.

London.

TYPHOID BACILLI IN THE URINE—DEAFNESS FOLLOWING DISLOCATION OF THE JAW—EFFECT OF CASTRATION IN THE ADULT.

At a meeting of the Royal Medical and Chirurgical Society, held February 8th, HORTON-SMITH read a paper on *typhoid bacilli in the urine of patients* suffering from typhoid fever. In sixty-one undoubted cases of typhoid fever, careful investigation showed that typhoid bacilli were present in only eight. They were never present in the early stages of the disease, and therefore the diagnostic value of this test is small. In some of the published cases in which typhoid bacilli were said to exist in the urine, sufficient care was not taken to distinguish this germ from the bacterium coli commune.

At a meeting of the Odontological Society of Great Britain, held February 1st, BOWDEN narrated an interesting case of *deafness following bilateral dislocation of the jaw*. The patient, a female, aged thirty-seven, while under the influence of nitrous oxid gas, had the three left lower molars removed. On regaining consciousness it was discovered that there was a bilateral dislocation of the lower jaw, which was easily reduced under the further administration of the anesthetic. Three weeks later the patient was found to be absolutely deaf in the left ear, the deafness being due, apparently, to the violent wrench of the jaw, which, by pulling on the cartilaginous meatus and tympanum, had set up an inflammation which had extended to the labyrinth.

At the session of the Pathological Society, held February 16th, SHATTOCK described the *histological characteristics of testicles removed in the radical cure of hernia*. The patient, aged forty-two, presented the usual congenital conditions resulting from extreme hypospadias with cleft scrotum. The testicles were in the inguinal canal and undersized. They did not contain spermatozoa or spermatoblasts. The question of an *internal secretion of the testicle* was discussed. It is unfair to argue from the condition of the child after castration to that of the adult. One result of double castration in the adult is obesity. In certain cases, also, marked mental disturbances follow double castration. These and other questions may possibly be answered by a study of the cases in which the testicles have been removed for enlarged prostate. Most of these patients are rather

old for this study. This method of treatment is giving way to the division or partial excision of the vas deferens. Hence, in this more modern operation, while the power of the testicles to produce sperms is put an end to, its "internal secretion" continues. Therefore, a comparison of cases operated upon by these two methods ought to throw considerable light upon the question of after-effects of castration.

BOYD cited a case of a man from whom he removed the testicles for tuberculosis, one some time after the other. Removal of the first was followed by little result, but after the removal of the second the patient became mentally childish, was unable to control himself, and wept without being able to explain why. These symptoms wore off in time. In the second case, that of the older man, the only change observed was obesity. The benefit which sometimes follows in carcinoma of the breast by oophorectomy is noteworthy as pointing to the formation of some internal secretion by the ovaries.

At a session of the Clinical Society held February 12th, PAGET called attention to the voracious hunger and thirst after injury or disease of the brain. He collected notes of fourteen cases pointing to the existence of special centers of hunger and thirst close to the centers of speech. Eight of the fourteen patients suffered from a voracious appetite for solid food without much thirst; three suffered from both hunger and thirst, and three had thirst alone. In not one of these cases was the primary injury or disease fatal. With regard to treatment, no harm came in any of these cases from allowing the patient to eat and drink all he chose.

SOCIETY PROCEEDINGS.

NEW YORK CLINICAL SOCIETY.

Stated Meeting, held January 22, 1897.

The President, ANDREW J. MCCOSH, M.D., in the Chair.

THE SURGERY OF THE FACE.

DR. ROBERT ABBE made some remarks on this subject, illustrating them by numerous photographs.

Hare-lip.—Commenting on a series of hare-lip cases, he said that much had been done toward improving this operation during the last twenty-five years. The old Malgaigne operation has been very generally abandoned. In the mild cases of this deformity, there was no occasion for any specially devised operation; all that was needed was a simple plastic operation adapted to the individual case. But in the more serious deformities, e.g., when the nostrils are flaring and the intermaxillary mass is attached to the nose, or where the gum on the prominent side protrudes far out from the end of the nose—no single, simple procedure could be described for any case. In the last few years it had been his practice in operating upon the lip to pare off and sacrifice a portion of the red lip on the best side, and then bring down on the other side a mass to make the center of the lip. It was necessary, however, to take into consideration the displacement of the tip of the nose to the side opposite the cleft; it had to be brought

forward with considerable force, and held there. He had recently adopted the plan of inserting two heavy Hagedorn needles, one into the skin under the columna, and the other in the alae nasae at the side which rises, driving them in through the lip to the bone. This kept the parts absolutely in place. He was of the opinion that a great deal had been accomplished by this measure in addition to the usual suturing. In double hare-lip it was not always easy to get a good result. The Hagedorn operation was useful here.

Nevus of the Face.—He said that he had treated many scores of cases of nevus of the face. The best treatment consisted in the use of an ordinary large cambric needle, or a hat-pin, heated to a red heat, and then plunged into the tissues of the nevus at a black heat. The insertion of the needle at a black heat had much to do with securing a good result. Punctures should be made in this way all over the tumor. There was no bleeding whatever, and the case was usually cured in three or four operations.

Epitheliomata of the Face.—These constitute a serious blemish, and, if neglected, produce enough erosion to become a menace to life. The manner of their removal varies with different surgeons. While not denying that caustics often produce a cure, he would say without hesitation that the knife was in every way superior. Thiersch grafting, combined with the use of the knife, furnished an opportunity for going much more wide of the disease. One of the photographs showed an epithelioma so extensive that it became necessary to enucleate the eye, and to expose the dura mater for a considerable space. Skin grafts were laid upon the dura mater, the bone, the fat of the orbit, and upon the muscle. It was found that these grafts grew upon all these various tissues. It was now two years since the operation, and there was no sign of recurrence. Paget had called attention to the fact that if a "wen" of the scalp were allowed to break, it would become an eroding epithelioma of the scalp. He called these "exploding cysts." Excision of cancers of the lip by a V-shaped incision is one of the most satisfactory of all operations. In the great majority of cases there is no recurrence. Photographs were shown of three cases of extensive cancer of the lower lip, in which the disease had been excised thirteen years ago. They had been seen within a month, and there was still no recurrence. Another case was one which had been faithfully and skillfully treated by an eminent practitioner by caustics, but only with the result of leaving an extensive sloughing area. It was excised about twelve years ago, and had not recurred.

Trifacial Neuralgia.—In the first case reported, the man had suffered from inveterate trifacial neuralgia for many years. He was cured by making an incision into the cheek, breaking through the posterior wall of the antrum, and cutting off the second branch at the foramen rotundum. The operation was not difficult, and the result was good, although a scar was left upon the cheek. In another case, he had operated upon a woman of sixty-six, a year and a half ago, doing Hartley's operation. She had suffered terribly from tic-douloureux for many years. The operation consisted in removing a temporal osteoplastic flap, dividing the branches of the nerve at

the foramen ovale, and evulsing them from the Gasserian ganglion. She recovered perfectly under this operation. In another case, more recently operated upon by this same method, he had been unable to bring out the nerves from the ganglion, and had therefore covered the foramen with sterilized rubber tissue, interposed between the Gasserian ganglion and the divided nerves. The patient had had no pain since the operation.

Scars from Burns.—In one instance he had attempted to transplant hair-growing scalp, but although great care was taken to remove the uninjured hair bulbs in the flap, no growth of hair took place.

Depressed Nose.—In a case of marked disfigurement of the face from the kick of a horse, jamming in the nose completely, an incision was made, about an inch long, between the eyes, and the flap drawn up. Then a bone flap was chiseled from the forehead, turned upside down, and fastened in such a way as to make a very fair bridge to the nose.

Depressed Fracture of Skull—Followed by Fits.—In a case of this kind, the operation showed the brain and dura mater adherent. They were separated, a piece of sterilized rubber tissue placed between the two, and the dura mater sutured over it. He had followed this case for a long time, yet there had been no return of the fits.

In another case, treated in the same manner, there had been daily fits before operation, yet up to the time when last seen, a year and a half after the operation, there had been no return of these fits.

Smallpox Pitting.—A young girl, who was terribly disfigured by smallpox pits, was etherized, the skin thoroughly sterilized, and with a sharp knife all the islands of skin between the pocks were shaved down to the level of the pock marks. The surface was then dressed as after skin grafting. The result was a thip, smooth, white cicatrix, and a very great improvement in her appearance.

Fracture of Nose—Emphysema of Orbit.—A man after sneezing violently suddenly developed emphysema of the orbit. The day before he had had a fall, but had thought nothing of it at the time. Of course the fall had fractured the nasal bones, and the sneezing had caused the passage of air through to the orbit. Dr. Abbé said that almost all broken noses were capable of repair, with good result, if treated early, and often even when not treated until late.

Tumor of Skull—Growth Arrested by Partial Excision and Use of the Erysipelas Toxins.—A case was reported of a rapidly growing tumor of the skull in the temporal region, occurring in a baby. The case seemed desperate, but he had operated in the hope that it might be an enchondroma. On chiseling through the skull the tumor was thought to be a very dense sarcoma, growing internally as well as externally. A portion was excised, and Dr. Dunham reported it to be an endothelioma. The child was given the erysipelas toxins. The patient had continued to grow and thrive, but the tumor growth had been arrested. It was the only case in which he had observed any apparent effect from the toxins. Judging from the former rapidity of growth, this child should have been dead a year and a half ago.

Mucocele.—In this case the ethmoid and sphenoid bones were dilated by a large mucous cyst. A wide incision was made in a corner of the orbital cavity. On introducing the finger it was found that the mucocele invaded the cranial cavity. The contents were evacuated and the cyst packed with iodoform gauze. It was allowed to granulate for a time, and then it closed.

Ankylosis of Jaw.—In one case he had excised the neck of the condyle, with a good result. If one cuts down to the point where the bone is narrow, the result will be good. Less than this is likely to result in ankylosis again.

Anthrax.—In this case there was under the jaw a raised, oval patch of purplish color, looking like a very virulent vaccination mark. At the time the photograph was taken the temperature was 103.6° F. Anthrax bacilli were found in the blood and in sections from the diseased area. The latter was excised widely, and at first the patient improved in every way, but he died, four days later, of an extension of the affection.

DISCUSSION.

DR. J. H. EMERSON said regarding the subject of Paget's exploding cysts, that he knew of a lady, ninety-one years old, in whom a wen on the shoulder-blade had ruptured and left a fungating ulcer. The patient had refused treatment at the time, and when seen by Dr. Weir long afterward, his diagnosis had been that of epithelioma. Six months later, or last October, she had developed symptoms of cancer of the stomach, and had died of this disease a few weeks ago.

DR. E. B. DENCH referred to a case in which he had restored an external auditory meatus which had been obliterated by five mastoid operations. The patient was a young man who had suffered from suppurative inflammation of the middle ear, involving the mastoid. When seen by him, there was distinct evidence of pus in the mastoid, and the external auditory meatus was closed. He had done a Schwarze-Stacke operation, throwing the auditory canal, tympanic cavity, and cells into one cavity. No flaps were available, so the wound was left open for about two weeks. The canal was gradually dilated by passing strips of gauze through the narrow opening. The patient was then etherized, and the ear split upward and posteriorly through the entire thickness, the integument was dissected off from the anterior surface of the concha, and the cartilage and overlying cellular tissue cut out. On pulling the ear forward, a small portion of the inferior wall of periotum lining the bony meatus was found. This was caught and sutured to the anterior flap. The posterior margin of the original wound was then dissected off, and sutured, and at the completion of the operation, the meatus was patent and completely restored. It was possible to cut off the entire auricle without causing much disfigurement. He had operated upon four or five cases of malignant disease of the auricle, and in each case he had been surprised at the freedom from recurrence.

DR. GEORGE WOOLSEY said that he had recently operated for the second time upon a man who had had several injuries to the head, which had caused epilepsy. Re-

placing the bone flap did not seem to act well. Accordingly, after excising the thickened and adherent dura, some gold-foil had been inserted. The patient had been much benefited, but had had occasional nocturnal fits. At a recent operation he had had an opportunity of seeing the gold-foil, and had found it embedded in a thick, artificial dura, which was adherent to the brain beneath and the scalp above. The foil had been sterilized between the sheets of paraffin paper, and it had been quite difficult to completely remove this wrapping at the time of the first operation. At this second operation, a piece of celluloid had been substituted.

He had been much interested in the case of deformity from smallpox pits. He had shaved down "rum-blossoms" after this method, with good results.

DR. D. BRYSON DELAVAN reported the case of a young man of twenty-five, whose life had been prolonged by two formidable operations for the removal of an angiosarcoma of the nasopharynx; another was an extensive epithelioma of the face, which had been cured by a flap operation and extensive skin grafting; another was a case in which the supraorbital branch of the facial nerve had been extirpated with the result of relieving an intense tic-douloureux. This was two years and a half ago, and there had been no return of the trouble. He asked if Dr. Abbé thought the hot needle was preferable to the electrolytic method for treating nevus. Dr. Abbé replied that even with the very finest needle, if the electrolysis were effective, there would be more scar than when the hot needle was used. Dr. Delavan said that scrapings and caustics were very commonly used in epitheliomata, yet he felt, with Dr. Abbé, that the knife was vastly superior. He had been greatly interested in the report of the case in which the toxins of erysipelas had possibly effected a cure.

DR. F. TILDEN BROWN asked if, in the case of loss of the alæ nasæ, the taking of the flap from the arm had given as good a result as would have followed the use of a flap from the face.

DR. ABBÉ, in closing, said that the flap from the arm gave at first a beautiful result, but after a time it was found that its capillary circulation was not the same as that in the nose, and that therefore it presented a more waxy appearance. He thought it would have been preferable to take a flap from the cheek, in spite of the scar that would have resulted. He had removed a number of sarcomata of the upper jaw, with very satisfactory results. The disease was usually confined to the antrum and its walls, and hence could be thoroughly removed by excision of half of the upper jaw. In these cases there had been no recurrence for a long time.

GLANDULAR SWELLINGS.

DR. GEORGE M. SWIFT reported a case of a girl of fourteen, who had had a moderate fever for a few days, followed by a swelling of the post-cervical glands. The swelling had subsided in two or three days, and after another interval of about the same length a similar swelling had appeared on the opposite side, accompanied by fever.

DR. WALTER MENDELSON said that he had seen quite recently a precisely similar case, except that so far it had been confined to one side.

HIGH TEMPERATURE IN AN INFANT FROM THE USE OF HOT BOTTLES.

DR. G. M. SPAULDING reported the case of an infant, three days old, whom he had directed to be kept warm, as it was quite feeble. At 8 A.M., the rectal temperature was 101.5°; at 12 M., 100°; at 6.30 P.M., 107.4° F. At this time the child had a peculiar cry, and was evidently in distress. The temperature of the room was 72° F., but the child was lying near the steam radiator, and was kept artificially warm by a hot-water bag. The artificial heat was at once taken away. At 9 P.M., the rectal temperature was 102°, and at 10 P.M., 100° F. The baby had shown no depression after this high temperature; it had not lost weight; and now, when twenty days old, it was steadily improving in every way.

DR. L. EMMETT HOLT said that he had seen several temperatures of this nature, one or two after surgical operations, thus making the condition all the more perplexing. He thought the prominent feature in these cases was that the temperature was entirely out of proportion to all the other symptoms.

SUPPURATION OF THE ANTRUM; RECOVERY WITHOUT OPERATION.

DR. D. BRYSON DELAVAN reported a case of suppurating disease of the antrum, cured without operation. The patient, a young married lady, had come to him about two weeks ago, having for three weeks been troubled with the symptoms of this disease. By transillumination the diagnosis of suppuration of the antrum had been easily established. The maxillary opening was occluded by thickened tissue in its neighborhood, and at a certain hour every morning there was a muco-purulent discharge. The parts were cleansed by him on alternate days, the patient meanwhile using a cleansing wash, and taking a course of tonic treatment. To-day, by transillumination, the antrum was found entirely free from disease, the symptoms had entirely subsided, and the case was cured. He had seen a similar result in a young man of thirty-five, hence the importance of watching these recent cases and treating them with the hope of avoiding operation. The operation was simple enough, but the after-treatment was troublesome and very unpleasant.

A PECULIAR CARDIAC NEUROSIS.

DR. HENRY C. COE said that he had seen two peculiar cardiac cases within a week. The condition had been very alarming, but the good appearance of the patients had led him to give a favorable prognosis. The first was a curettage for an incomplete abortion, performed at night, the patient's temperature being 104° F., and the pulse 120. There was considerable hemorrhage after the operation. The pulse suddenly became very weak, although very little anesthetic had been taken. Notwithstanding this, the respiration was not much disturbed, and the patient's color was good. She responded quickly to the administration of nitroglycerin and strychnin. The

other case was quite similar, except that her pulse remained weak and rapid for about eighteen hours. It was a woman who had been confined normally, but had been kept in bed for two weeks because of a history of having had phlebitis after a former confinement. Notwithstanding this precaution, she developed phlebitis on getting up, and had been accordingly sent back to bed. Suddenly the pulse became very rapid and thready, but she said she felt well, and she certainly looked well. She did not respond satisfactorily to any of the usual stimulants—strychnin, nitroglycerin, and camphorated oil—but the next morning the pulse was 84, and has remained so since then. The patient was not hysterical, and there had been no previous attack of this kind.

DR. FRANK W. JACKSON said that these cases should be classified as essential tachycardia—a condition not very uncommon, yet about which we know very little.

TUBERCULAR MENINGITIS WITH PECULIAR FEATURES.

DR. C. A. HERTER reported the case of a patient who had had tuberculous joint disease, and who had been suddenly attacked with severe headache and vomiting. The same day he had become delirious and then comatose, and had had repeated convulsions. Death had occurred within three days after the onset of the headache. The autopsy showed a typical tuberculous meningitis. One interesting point was the extremely small amount of exudation. Another interesting feature was the existence of a solitary tubercle in the left lobe of the cerebellum, about three-fourths of an inch in diameter, which had caused no symptoms during life. He said that he had seen a solitary tubercle in about the same position in two or three other cases where there had been nothing pointing to a cerebellar condition.

DR. H. M. BIGGS said that he was reminded of a case of anthrax meningitis. There had been an infection at the wrist, from which the man had apparently recovered. He suddenly developed headache, delirium, and a temperature of 107° F., and death occurred in less than fifteen hours. The autopsy showed a very extensive sero-hemorrhagic exudation, and pure cultures of the anthrax bacillus were obtained from the brain. Cultures made from the skin, heart, and various other parts of the body were negative.

TRANSPOSITION OF THE ABDOMINAL VISCERA.

DR. FRANK W. JACKSON said that he had recently seen a German, forty-five years of age, who, for seven years, had had numerous attacks of vomiting of blood from the stomach, with an occasional discharge of bloody stools. Coincident with these attacks there had been extreme anemia. Physical examination showed no evidence of liver dulness on the right side. There was a fair area of dulness corresponding to the spleen. Considerably to the right of the median line, and extending to the vertebral column on the left, was a mass projecting some distance below the free border of the ribs, and upward to the fourth space. This man said that Nothnagel had diagnosed his case as one of transposition of the viscera below the diaphragm.